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AUTHOR	Hiscox, Michael D.; And Others
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ABSTRACT

A series of reports informs educators and parents about the Alaska Statewide Assessment, a program designed to measure student performance in mathematics and reading. The first report covers the 1981 assessment, proposed planning and changes in the program for 1983, evaluation plans, and test scores. Report 2 describes the progress of score interpretation; compares scores for sex, race, language, and geographic differences; and discusses the 1981 Scholastic Aptitude Tests. Report 3 summarizes the assessment process, the content of the tests, and statewide averages, in addition to answering commonly asked questions about the statewide assessment program. Report 4 evaluates student strengths and weaknesses as indicated in the test results. Report 5 describes educators' reactions to the program and features of the 1983 assessment, local use of test results, information provided in test results, and district testing representatives. The final report provides the results of the 1983 assessment, describes content of the 1983 tests, and answers teacher and parent questions related to uses of the scores and differences between 1981 and 1983 scores. (LP)

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ASSESSMENT REPORTS 1-7:

AN UPDATE ON THE ALASKA ASSESSMENT PROGRAM

by
Michael D. Hiscox; And Others

1983

TM 832 027

ASSESSMENT REPORT 1: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

The 1981 Assessment

Over 12,000 Alaska fourth and eighth grade students participated in the third biennial Alaska Statewide Assessment during the week of March 23-27, 1981. Designed to measure performance in important reading and mathematics skills, the assessment provides valuable information for educational planning and instruction. Assessment results may help school personnel identify strengths and weaknesses in the instructional process. In the future, educators will have a chance to observe changes in performance for groups of fourth and eighth grade students. And tentative plans exist for providing more detailed results to those educators who would find them useful. However, the assessment results will never be used by the State to make comparisons among students, classes, schools and districts; the test procedures are not properly constructed for obtaining comparative information.

This Update Report provides information on the assessment results and additional projected activities. Though schools have already received their class reports, the effectiveness of the assessment is still being evaluated; results of that effort may indicate ways of making the data even more useful. The assessment evaluation and related work are briefly described in this report.

Assessment Changes Appear Successful

Despite a generally successful history, the Alaska Assessment Program has yet to achieve its full potential. The first two assessments did not report or interpret student test data as fully as required to assist state educators. The reporting forms provided by the scoring service were not as "inviting" as they could have been, and test results were seldom available to schools until two or three months after testing. Also, since only a 20 percent sample of the state's fourth and eighth grade students were tested, districts and schools did not have comprehensive information on the performance of their students. Finally, despite a six-hour administration period, the tests did not cover mathematics concepts or study skills. In short, while the initial assessments were technically strong and provided more information than most comparable programs, many educators felt more could be accomplished.

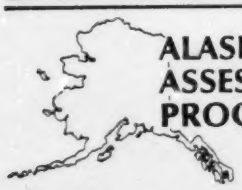
The 1981 testing incorporated a number of changes designed to eliminate problems encountered in previous years. The test content was broadened, the number of items per area tested was decreased, instructions were simplified, reports were improved, and the program was expanded to include **every** Alaska fourth and eighth grader. Turnaround time for the test results was reduced dramatically. Highly positive response among the state's teachers and administrators indicated the improvements had been well worth the effort. And this is only the beginning.

The Department of Education, working with Interwest Applied Research, will conduct a number of evaluation and reporting activities to complete the 1981 testing cycle and build a firm foundation for an even more successful 1983 assessment. Alaska educators will have a number of opportunities to participate in these activities, and the Department sincerely invites their contributions.

1983 Planning Begins

Successful completion of the 1981 assessment has prompted the Department to begin planning possible improvements for 1983. Many suggested changes are designed to make assessment information more useful to local educators. For although the assessment process was developed to collect important statewide information, past experience has shown that, within limits and with some minor modifications, test results can also be very useful at the student, class, school and district levels. Throughout the 1981-82 school year, the Department will be evaluating current uses of information and proposing changes to improve the testing process for local educators.

The success of the 1981 scoring process suggests that more detailed, more "personalized" report forms could be developed for use in 1983. But would more detailed reports be useful to local educators? During the 1981-82 school year, the Department will attempt to answer this question, and will plan 1983 procedures accordingly. Department staff will also question various sources regarding test content, test length and construction, reporting methods and a number of other important factors. The goal is to make the 1983 assessment optimally useful at the local level while collecting the statewide information required by the Department.



This is the first in a series of reports to Alaska educators and other interested individuals and organizations about the results of the 1981 Alaska Statewide Assessment and the plans for the next assessment in 1983. This report is prepared under the direction of the Office of Planning and Research of the Alaska Department of Education, Ernest E. Polley, Coordinator. *Copyright © 1981 by the Alaska Department of Education and Interwest Applied Research, Inc.* *The Department encourages questions and comments about the assessment process; inquiries and suggestions should be directed to Dr. Alexander E. Hazelton, Supervisor of Research, Alaska Department of Education, Pouch F, Juneau, Alaska 99811. Additional copies of this report are available upon request.*

Assessment Program to be Evaluated

The apparent success of the Alaska Assessment Program, particularly of the recently completed 1981 testing, has already been noted. The program looks good in both a *relative* sense (when compared to similar programs in other states) and in an *absolute* sense (in light of Departmental needs for statewide data). Even if the assessment process were to continue essentially unchanged in future years, it would probably remain a good, solid program. But to make the testing as beneficial as possible, information must be gathered on how well the program is meeting the needs of its various audiences and what, if anything, should be done to improve it.

Goals of the Evaluation

The Department has already taken a necessary step by scheduling an evaluation of the Alaska Assessment Program during the 1981-82 school year. Data will be collected on the quality of the tests and reports, and on the efficiency of the procedures used. Where changes have been made (for example, from sampling to testing every pupil), the Department will try to gauge the impact of and reaction to that change. An external evaluation team has been formed comprising experts in test construction, test use, and educational policy. They will seek information from a wide variety of sources: Department personnel, district and local staff, Alaska students, state government and community officials, and the general public. Every effort will be made to determine how well these groups are being served, and how the assessment might serve them better.

Your Input Is Welcomed

The evaluation team will be contacting a number of state educators in the course of this evaluation. But they are eager to hear from everyone who has a suggestion, criticism, or insight regarding the Alaska Assessment. If you would like to be actively involved in the upcoming evaluation, contact the evaluation team by using the ***Hotline*** number given on the back of this report.

A Note From the Commissioner

Seven years ago, educators from across the state met to ponder the question: "How can we meet the public's desire to know how well Alaska students are doing and, at the same time, provide the professional educator with practical information for improving student skills?" One answer to this difficult question is found in the State's biennial assessment of elementary school children in reading and mathematics. March of 1981 marked the third such assessment, an assessment designed to lead to improved learning opportunities for Alaska students.

The Alaska Assessment Program has established itself as one of the foremost testing programs in the country, and I would like to personally thank the teachers, administrators and citizens who worked to make this success possible. As the 1981-82 planning, reporting and evaluation activities are carried out, I would like to solicit your continued interest and participation. The Department stands ready to modify the program so as to best meet the needs of the state's educators and students. With your assistance, we can continue to make the Alaska Assessment an important part of our mutual efforts to provide high quality public education.

Marshall L. Lind
Commissioner of Education

The 1981 Alaska Assessment Awards

the envelope please . . .

Most noteworthy enterprises manage to generate an assortment of honors and awards to help compensate for the more mundane activities. Unfortunately, most assessment "heroes and heroines" remain relatively unsung, forcing us to bestow the tongue-in-cheek awards which follow. These awards carry little distinction and even less fiscal reward. Nevertheless, please join us for the 1981 ALASKA ASSESSMENT AWARDS. Drum roll, please . . .

The EAGLE-EYE Award

Question 30 of the eighth grade math test asks the student "Which of the following is always correct?" and offers this attractive option: If A x B = C, then C/B = A. Fair enough? Not really, as a few sharp-eyed teachers pointed out to us. If B is equal to zero, then the equation requires division of C by zero, a frowned-upon operation which certainly doesn't yield A. Fortunately, it appears that the eighth grade students selected this option without considering the problem of B = 0; it may have helped that the other options were incorrect for all numbers. But to those observant educators who spotted the problem, we present the coveted Eagle-Eye Award.

The EAGLE-EYE Award with OAK LEAF CLUSTER

Notice anything about option B of question 41 on the eighth grade math test? An unfortunate proofreading error caused this choice, which was supposed to be 11/6, to come out as 11/16 on all 10,000 eighth grade test booklets. And, as luck (bad) would have it, 11/6 was the correct answer; the question asked for the reciprocal of 6/11. Well, it was nothing that countless hours with tiny paintbrushes and a few quarts of opaquing fluid couldn't fix. If you noticed the artful blob of white which turned option B back into the correct answer, award yourself this special version of our Eagle-Eye Award. (Actually, the real award should probably go to the paintbrush wielders, whose talent at painting over little 1's is unmatched anywhere.)

The PIECE-OF-CAKE Award

The first item on the fourth grade math test tells the story of Joey and Greg, pointing out that in two games of basketball, Joey made seven baskets and Greg made six baskets. The burning question is "How many baskets did Joey and Greg

Statewide Average Test Scores

Over 12,000 of the state's fourth and eighth grade students participated in the 1981 Alaska Assessment Testing conducted last March. In early May, schools were sent data showing the average scores statewide for each of the six subtests and two total test scores. The charts below present this information. ***IMPORTANT:*** When considering these results, do not make the mistake of comparing percentages and concluding that the higher percentage indicates a "better" performance. The tests were not comparable in difficulty, so no comparison is possible. For example, even though the fourth grade math computation score is higher than the eighth grade score, it would be incorrect to say that fourth grade students are "better" in math than eighth graders on the basis of this information alone.

MATHEMATICS

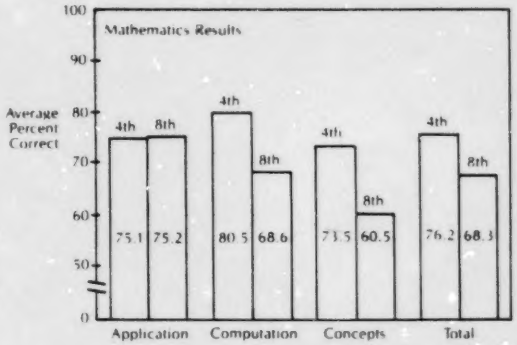
The fourth grade mathematics section contained 37 items; the eighth grade contained 43. Both the fourth and eighth grade tests had three mathematics subtests:

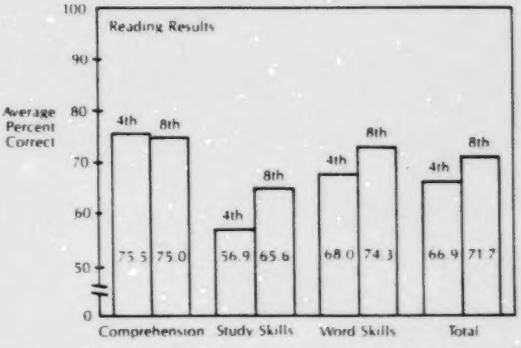
- ***APPLICATION*** The items require the student to demonstrate mathematics problem solving skills (such as translating information into an equation, determining the correct operation, etc.) with written "story" problems.
- ***COMPUTATION*** This subtest requires proficiency in plain old arithmetic —adding, subtracting, multiplying and dividing whole numbers (positive and negative), fractions and decimals.
- ***CONCEPTS*** This subtest was new in 1981; it covers such things as rounding, telling time, units of measurement, equivalent fractions, place value, number properties and a variety of geometric shapes, properties and rules.

READING

The fourth grade reading section contained 45 items; the eighth grade contained 42. Both the fourth and eighth grade tests had three reading subtests:

- ***COMPREHENSION*** The items require the student to read a short passage and use the information in that passage to answer three questions. The questions involve selecting the main idea, noting various facts presented, making inferences and drawing conclusions, and other reading concepts.
- ***STUDY SKILLS*** New this year, this subtest covers dictionary use, selecting the best sources of information, using maps and graphs, obtaining information from charts and tables, and other similar skills.
- ***WORD SKILLS*** This subtest covers a variety of phonetic, structural analysis and vocabulary skills; items deal with irregular vowel sounds, diphthongs, possessives, prefixes and suffixes, synonyms and antonyms, multiple meaning words and various related word skills.





make in all?" Seems pretty easy, right? It was; over 95 percent of the state's fourth graders correctly totaled Greg and Joey's scoring, making this the easiest item on the 1981 tests.

The TOUGHER-THAN-IT-LOOKED Award

Question 20 on the eighth grade reading test asked the student to select which of four books would be least useful because its information would be most out of date. The four titles and their publication dates were (A) *Selecting Office Equipment*, 1939, (B) *California Government in the 1800's*, 1923, (C) *Repairing Your Foreign Sports Car*, 1978 and (D) *Webster's Dictionary*, 1974. Only slightly more than 20 percent of the state's eighth graders correctly selected the 1939 office equipment book as the least useful; three times as many selected the 1923 book on nineteenth century California government. Thus, question 20 receives notoriety as the hardest item on the 1981 tests.

The ADVANCE PLANNING Award

Here's an award any dedicated soul can win. Simply take adequate note of this important (at least eventually) piece of information: The 1983 Alaska Assessment tests will be administered the week of March 21-25, 1983. Now, this date is subject to change, and you may have a problem figuring out where to note such a fact (1983 calendars being scarce at this time). Further, you will certainly be alerted to the testing dates several other times closer to the event. But to all you diligent planners and honor seekers out there, we present the Alaska Assessment Advance Planning Award, with our admiration.

The NICE WORK, AND THANKS Award

This last award is a serious one, and while the award is as ephemeral as the others, the appreciation is sincere. An unfortunately small number of Alaska educators know that the Alaska Assessment tests are largely designed and developed by other Alaska educators, the members of the state's Reading and Mathematics Content Panels. These dedicated individuals, some of whom are in their sixth year of working with the program, are responsible for creating objectives, designing item formats, selecting test items and improving the testing process. They have been very conscientious and proficient in these tasks; the success of the assessment program is, in large part, a result of their efforts. Similarly, thanks are due the 52 individuals around the state who served as District Testing Representatives during the 1981 Assessment. In that role, they coordinated assessment activities within their districts and served as liaisons among their district's schools, the Alaska Department of Education and the Department's contractor. None of these individuals receive reimbursement for their participation (and this award certainly won't improve that situation), but all Alaska educators should be aware of the fine work done by these groups.

New "Hotline" Number Established

The Department of Education wants to encourage the participation of local educators in the state's Assessment Program, and wants to make that participation as convenient as possible. For this reason, the Department will continue to support a no-cost ***Hotline*** number to allow local educators to make comments and receive information about the assessment. Call (503)223-3404 ***COLLECT*** any weekday between 9:00 and 4:00 Pacific time and ask the operator to tell the person answering that you are calling about the Alaska Assessment; your call will be accepted and a person knowledgeable about the assessment will speak with you. Here are a few reasons you might want to call:

- You have a question about your 1981 assessment results
- You have a suggestion for improving the assessment
- You have a criticism about the assessment
- You would like to be involved in evaluating the program

Don't limit yourself to these few reasons. We would like to hear from you about anything involving the assessment.

When you call, you will reach the offices of Interwest Applied Research in Portland. Interwest, a relatively new organization, has received a contract from the Department to conduct this year's assessment activities. Although the organization is new, the voices on the line may sound familiar; Mike Hiscox and Evelyn Brzezinski, who worked on the assessment for several years while at the Northwest Regional Educational Laboratory, are now Interwest employees and have been assigned to the project. They look forward to working with you again.

Assessment Hotline
1-503-223-3404
COLLECT

FOR IMMEDIATE RELEASE!

For additional information:
Al Hazelton (907) 465-2966

ALASKA SCHOOLS COMPLETE SUCCESSFUL STUDENT ASSESSMENT

Evaluation, Reporting and Analysis Activities Continue

JUNEAU, September 15—Seven years after its creation by a farsighted group of Alaska teachers and educational administrators, Alaska's Statewide Assessment Program has achieved the status of an effective program that can, with the assistance of the state's educators, make a valuable contribution to the quality of education. This view was expressed by Al Hazelton, Supervisor of Research for the Alaska Department of Education. Hazelton went on to say, "1981 was the most successful assessment yet, due in large part to the efforts of the state's teachers, principals and district staff. We hope to maintain the momentum we've established during the coming school year."

Hazelton's thoughts were echoed by Ernie Polley who, with Marshall Lind, current Commissioner of Education, established the assessment program in 1974. Polley, now Coordinator for the Department's Office of Planning and Research, remarked, "The 1981-82 school year will bring a number of analysis and reporting activities which are designed to make the assessment more valuable to local educators. There will also be a complete evaluation of the program which, we hope, will show us ways to make further improvements."

(... details inside ...)

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ASSESSMENT REPORT 2: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

Assessment Evaluation, Score Interpretation Underway

The coming of winter brings two very important Alaska Assessment activities. Both are designed to ensure that classroom, school and district needs are addressed during the collection of assessment data—thus making the state's assessment program as useful as possible to local educators. These activities are being conducted for the Department of Education by Interwest Applied Research.

One activity is the evaluation described briefly in the first assessment report. Some of you may be contacted by evaluation team personnel to gather your suggestions for improvement of the assessment. The Principal Questionnaire sent with this report is another means of collecting the needed information; school principals should, if at all possible, invest the five minutes it will take to complete the questionnaire. Their opinions and comments can help make the assessment far more useful in local educational planning and decision making.

The second activity is interpretation of the 1981 assessment scores, described in some detail below.

Interpreting Test Scores

In the first newsletter and on page 2 of this report, you are told that it would be improper to judge the quality of students' performance on the assessment tests based on the percentage correct score alone. Not that it isn't done. One of the most frequent mistakes in test use is incorrectly inferring quality of test performance from simple numerical data. In most tests, including the Alaska Assessment Tests, the percent correct scores are relatively meaningless until compared to something—either the performance of other students (such tests are said to be "norm referenced") or to standards that exist independent of others' performance (such tests are termed "criterion referenced").

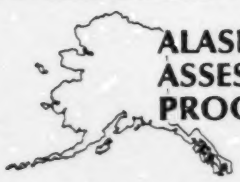
The Alaska Assessment Tests are not norm referenced. The State will not make any comparisons among students, classes, schools or districts. The Department does not know which district scored highest and which scored lowest, nor does it know any student scores or class average scores. Analyses have been run to compare the scores between large groups—such as males against females, rural schools against urban schools, etc.—but any comparisons of performance on a more specific level can only be accomplished by the schools or districts themselves.

The Interpretive Panels

The Alaska Assessment Tests are criterion referenced. That is, the quality of students' performance is judged on how well it meets expectations held for those students. Individual classes, schools and districts can establish their own criteria by evaluating the subtests to determine how well students should perform. Such evaluations will be conducted statewide later in the year. Panels of state educators will examine each test item and estimate the minimum acceptable percent of students who should answer that item correctly. They will also estimate the desired level of performance: the maximum level that the schools could realistically hope to achieve. These estimates will be made before the test scores are known to the panelists. The estimates will then be used to determine, for each test item, whether students' performance indicates an area of stength or weakness or simply meets educators' expectations.

The educators who will participate in this process are designated Interpretive Panel members. They make a valuable contribution to the effective use of assessment data by pointing out areas of poor performance so that appropriate remedial steps can be taken. Results of their analysis will be available for use by local educators in late winter.

You or one of your colleagues may be asked to spend a few hours serving as an Interpretive Panel member. If possible, please assist with this important work. (If you would like to volunteer to participate on the panels, please contact the Department of Education, or call collect on the ***Assessment Hotline*** —503/223-3404.)



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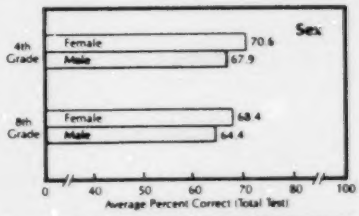
Comparison Scores for the 1981 Assessment

As noted in Assessment Report 1, over 12,000 of the state's fourth and eighth grade students participated in the 1981 Alaska Assessment Testing conducted last March. Results presented in that report showed fourth and eighth grade statewide averages on the mathematics subtests (application, computation and concepts), reading subtests (comprehension, study skills and word skills), and total math and reading. This report shows how different subgroups of students performed on the total tests. More detailed information about group performance is available from Al Hazelton at the Department of Education (465-2966).

AN IMPORTANT REMINDER: Do not compare scores across fourth and eighth grade groups and conclude that the higher percentage is the "better" performance. The tests were ***not*** comparable in difficulty, so it is not possible to say that students in one grade performed better than students in the other. Also, care must be taken when determining the meaning of test scores obtained by different groups. Each student contributes to group performance in all four comparisons shown below. It is therefore impossible to tell from the information presented how much of the score difference between, for example, racial groups is really a result of the sex, district grouping or bilingualism of the students involved. Further analyses are being done to determine the magnitude of this interaction.

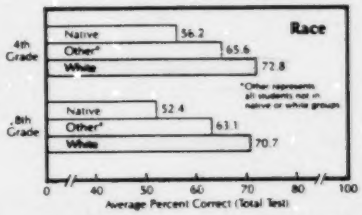
SEX

As seen in the graph to the right, girls scored higher than boys at both the fourth and eighth grade levels. Fourth grade girls and boys scored practically the same on the math test. In the reading test, though, girls correctly answered about two more items than boys. That performance accounted for the significant difference on the total test between fourth grade boys and girls. At the eighth grade level, girls correctly answered about one more item in math and about two more items in reading than did boys.



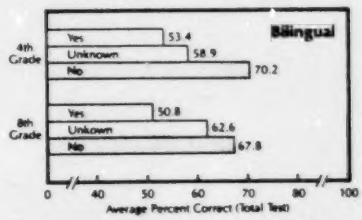
RACE

The graph shows that native students scored significantly lower on the total test than did other non-white students—who, in turn, scored significantly lower than white students taking the test. These differences were consistent on all subtests in both grades. Remember the caution given above about the potential for interaction effects between race and the other three categories. Also, since there is little similarity among the Black, Hispanic, Asian and other non-white students assigned to the "Other" group, inferences about the meaning of their performance should be drawn very carefully, if at all.



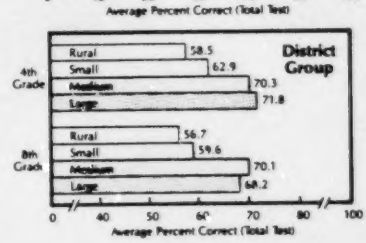
BILINGUALISM

For each student, teachers responded to the question, "Does the student speak a language other than English?" The graph shows that students for whom the answer was yes scored significantly lower in both grades than those who spoke only English. Note the similarity between these results and the native—white comparison above. Do not, however, attempt to draw conclusions about the performances of native and bilingual students without examining the appropriateness of the test content for those students. (Such an examination is one of the most important roles played by the Interpretive Panels discussed on the first page.)



DISTRICT GROUP

The 52 Alaska districts were categorized by size and type. Anchorage and Fairbanks were considered "large districts" (over 2500 students), the six districts with 1500 to 2500 students were classified "medium," and the remaining 23 city districts were considered "small." The other 21 districts (those outside incorporated areas) were classified "rural." At the fourth grade level, rural districts obtained the lowest scores, and test performance increased with district size. At the eighth grade level, however, students in medium-sized districts scored higher than students in large districts and there were no significant differences in performance for students in small and rural districts.



An Important Note About Significant Differences

When a report says that certain differences are significant, it means that a statistical test has been conducted to determine if the difference between two test scores might have occurred by chance. Because tests aren't perfectly reliable, there will always be some variation in scores from one administration to another. The statistical test helps decide if a difference of similar magnitude would occur in the two groups' scores if the test were administered again. If it would not, the difference cannot be termed "significant."

In all cases but one (the comparison of small and rural districts at eighth grade), the scores achieved by each subgroup were significantly different from those of the comparable subgroup(s). That is, girls scored significantly higher than boys, whites scored significantly higher than natives, and so on. However, since the likelihood of obtaining a statistically significant difference increases with group size, the number of students in certain subgroups undoubtedly contributed to some of the differences noted. It would have been unusual, for example, not to find a significant difference between boys and girls, given the large size of those subgroups.

Readers also need to realize that statistical significance does not imply educational significance. While the difference between the fourth grade girls and boys is statistically significant, it is unlikely that Alaska educators would want to devote much attention to this difference, which resulted from girls answering only two more test items out of 82 correctly. In contrast, the difference between eighth grade whites and natives reflects nearly 16 more items (out of 85) answered correctly. While all the differences noted above are real, it will take careful consideration by state educators to determine the educational significance of each.

The 1981 Scholastic Aptitude Test

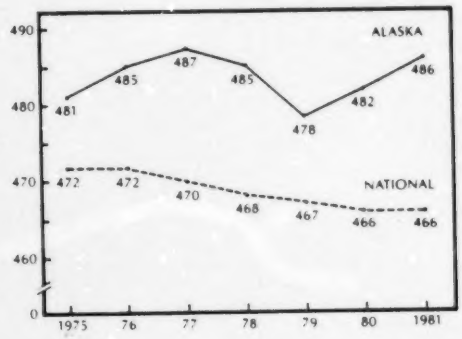
Alaska's College-Bound Seniors Continue to Outperform Nation

Over 1500 Alaska students were among the one million college-bound classmates of 1980-81 who participated in the College Board's Admissions Testing Program (ATP). Data from the program components (the best known being the Scholastic Aptitude Test) have been returned to the Department of Education, and initial results are presented here.

Since the SAT is taken by two-thirds of all seniors intending to enroll in one of the nation's 3000 colleges, that test has become a yardstick for gauging the nation's educational process. It is thus interesting that, for the first time since 1968, neither the national mathematical nor the verbal scores declined. However, because the characteristics of participating students vary from year to year, interpreting test results is very difficult and must be done carefully.

MATHEMATICAL

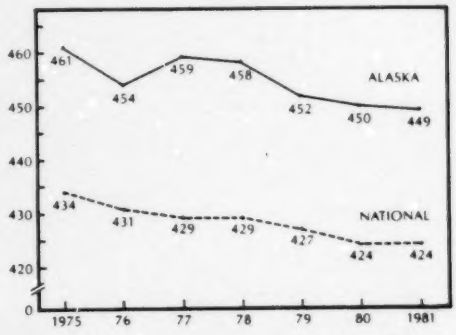
While the national average on the mathematical section—466—remained unchanged from 1980, Alaska seniors registered a four-point increase to 486. (SAT scores range from 200 to 800, with an average that fluctuates from year to year.) Given a four-point improvement the previous year, state scores have improved eight points in two years, while the national score declined by one. Males outscored females substantially, 519 to 460; this 59-point difference slightly exceeds the national difference of 49 points (492 as opposed to 443). The large disparity in mathematics scores has widened in recent years—the 1973 national difference was only 42 points. This trend is somewhat puzzling in view of the increasing number of females aspiring toward more mathematically oriented occupations.



VERBAL

The scores of Alaska seniors dropped for the fifth straight year, falling to 449 from the 1980 average of 450. The national average was unchanged from 1980, remaining at 424. Alaska males outscored females, 460 to 441. At the national level, males also outscored females; the difference was twelve points, up from three points in 1976. This year, Alaska males outscored females on both the vocabulary and reading comprehension sections of the test.

It is interesting to contrast the higher verbal (and mathematical, for that matter) scores for males with the higher assessment scores for females reported on the opposite page. (If you choose to ponder this, realize that less than 30 percent of Alaska seniors—generally the top students—take the SAT, whereas all fourth and eighth grade students take the assessment tests.)



MORE DETAILS AVAILABLE

The information collected by the Admissions Testing Program can provide considerable insight into the abilities and interests of Alaska's 1981 college-bound seniors. In addition to the SAT scores, the Program reports on the Test of Standard Written English and the College Board Achievement Tests. Students also complete the Student Descriptive Questionnaire.

The reports can supply such information as student grade points, family income, ethnic background and college preferences. Included are such interesting data as the state seniors' preference for coed dorms over single-sex dorms by a two to one margin, and that twice as many seniors plan to study to become petroleum engineers as secondary teachers.

Future issues of this newsletter will present additional information on the Scholastic Aptitude Testing and other ATP components. Meanwhile, if you have any questions about the testing or would like more details, don't hesitate to contact Al Hazelton, the Supervisor of Research for the Department of Education, at 465-2966.

ANYONE OUT THERE?

The Bear is lonesome. And for good reason. The ***Assessment Hotline,*** discussed in the last report, has failed to net him a single call. Since it is unlikely that Alaska's educators are extraordinarily shy (or that the Alaska Assessment is perfect), he can only assume that nobody likes him.

Seriously, we need to hear from you. Too many assessments exist simply to collect needed statewide information; that need not happen in Alaska. Help us make the results as useful as possible to you, your school and your district. Use the ***Hotline*** to provide your suggestions and concerns to the evaluation team at Interwest. The Bear thanks you, and we thank you.

Assessment Hotline 1-503-223-3404 COLLECT

ASSESSMENT REPORT—Please Circulate
PRINCIPAL—PLEASE NOTE INSERT

Office of Planning and Research
Alaska Department of Education
Pouch F
Juneau, AK 99811

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The Bear Heads South...

Well, not that far south. But beginning immediately, the Bear and the Alaska Instructional Diagnostic System (AIDS) take up residence in Portland. Interwest Applied Research will handle the distribution of AIDS materials, as well as offer technical assistance to users of the system.

The Alaska Instructional Diagnostic System is beginning its fourth year of use within the state. AIDS diagnoses students' strengths and weaknesses in reading and mathematics, using a variety of test and skill sheet materials. The content is suitable for students from first through eighth grades; particular attention was paid to making the content appropriate for Alaska students. AIDS is unique among diagnostic tests in that items are developed from the same set of objectives as those used for the Alaska Assessment Tests; teachers can thus perform more extensive diagnosis of potential weaknesses shown by their assessment results.

The Alaska Instructional Diagnostic System has demonstrated very good measurement characteristics and has received excellent reviews from national testing experts. Extensive design input from teachers, administrators and curriculum specialists has ensured that the system offers both the content and practicality necessary for use in Alaska.

The Bear is marking his move south with new, substantially reduced prices on AIDS materials. Whether you are a current AIDS user or are recently in need of a diagnostic test, take advantage of the lower prices now available. You can obtain a preview kit containing complete descriptions of the materials as well as a new price list from Interwest. Use the ***Assessment Hotline*** (503/223-3404, Collect) to request a copy.

ASSESSMENT REPORT 3: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

Report to the Public

Can Alaska students read? Perform math computations? Do boys or girls score higher on basic skills tests? Does race, bilingualism or district size affect student performance? To answer these and other questions, the Alaska Department of Education assesses the basic skills performance of the state's fourth and eighth grade students every other year. The most recent testing was carried out in March 1981. This report summarizes the findings from that testing.

The Alaska Statewide Assessment does not compare classrooms, schools or districts. Test results are reported on a classroom basis only. Classroom reports are sent from the Department of Education's scoring contractor directly to local districts or schools. Since not all districts have agreed that the assessment test content is a fair indicator of what they hope to teach, it would be misleading to compare district scores.

While tests such as the Alaska Statewide Assessment can provide educators and citizens valuable information, test data must be carefully and objectively analyzed before it can be used in educational decision making. This report should help you determine the importance of the assessment results, and the impact those results should have on Alaska education.

A Summary of the Assessment Process

This assessment, conducted during the week of March 23-27, 1981, was the third in Alaska's history; over 12,000 fourth and eighth grade students participated. Previous tests were administered in 1977 and 1979.

The Alaska Statewide Assessment Test was constructed by Alaska educators, who based it on reading and mathematics objectives they considered important. No attempt was made to correlate the test with any sort of "national curriculum." Many items named places in Alaska or specified situations familiar only to Alaska students. Unlike many commercial tests used by Alaska districts, the Alaska assessment tests were developed without concern for their suitability outside the state.

The specific skills to be measured were selected by Content Panels composed of reading and math experts from throughout Alaska. Contractors working with the Department of Education created test items which met the panels' specifications. Test items were reviewed by the panel members and pilot tested—then reviewed further prior to printing.

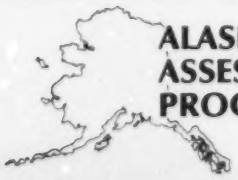
About a month before testing, the Department's contractor shipped the test materials—tests, machine readable answer sheets, and directions—to each participating school. In most cases, classroom teachers administered the test. It was given in two parts: reading and math. Each part contained about 40 items and took just under an hour to administer. All fourth and eighth grade students except those who were absent, in self-contained special education classrooms or in alternative schools were tested. Students' answer sheets were returned to the Department's contractor for scoring.

Analyzing the Assessment Results

A unique scoring system using a microcomputer and a small mark reading machine made it possible to score answer sheets as soon as they arrived at the contractor's office. A classroom report listed individual student scores on each test section, as well as average classroom performance. These classroom reports were returned to school principals (or, in a few cases, to the district office) for distribution to classroom teachers.

When virtually all of the answer sheets had been scored, the results yielded statewide averages for each test section. This information was sent to schools, where staff members could compare these state averages with their classroom scores. The information was also used to prepare data files for further study. Since last summer, the Department's contractor (Interwest Applied Research) has been analyzing the test data. A portion of their findings was presented in two previous Assessment Reports; this report summarizes that data and presents findings from additional analyses.

Of course, any analysis has certain limitations. For example, Alaska has 52 independent school districts, each with a unique curriculum and student population. While the Department and Interwest can readily perform statistical analyses, they cannot determine the implications of test results for each district, school or classroom. That task falls to local educators. As you read this report, remember the distinction between analysis—which can be done by the State—and interpretation—which can only be done by local educators in the context of their own situations.



ALASKA ASSESSMENT PROGRAM

This is another in a series of reports to Alaska educators and other interested persons about the results of the 1981 Alaska Statewide Assessment and plans for the next assessment in 1983. This report is prepared under the direction of the Office of Planning and Research of the Alaska Department of Education, Alexander E. Hazelton, Supervisor of Research. *Copyright © April 1982 by the Alaska Department of Education and Interwest Applied Research, Inc.* *The Department encourages questions and comments about the assessment process; inquiries and suggestions should be directed to Dr. Hazelton at the Department of Education, Pouch F, Juneau, Alaska 99811; (907) 465-2966. Additional copies of this and previous reports are available upon request.*

Content of the Assessment Tests

Items on the Statewide Assessment Test are developed from specific learning objectives. Since the beginning of the State's testing program, content panels of teachers and curriculum specialists have worked to establish comprehensive sets of objectives and test items in reading and mathematics. Their efforts resulted in the Alaska Objectives and Items Bank (AOIB) that forms the basis for both the Statewide Assessment Test and the associated Alaska Instructional Diagnostic System (AIDS).

The Content Panels selected the objectives to be covered at grades four and eight from the AOIB. While the panels recognized that each district had its own curriculum, and that not all schools taught the same topics, they felt it was important to know how students across the state performed on the specific objectives selected. In making their choices, panelists considered both very basic skills, which they felt every Alaska student should master, and more advanced skills which, although important, might not be taught in every school at the grade tested. The tests were not designed to be "minimum competency" tests—that is, tests which measure only very basic skills, usually taught several grades below the test level. While each Alaska Statewide Assessment Test measures some of those minimum skills, it also measures skills at (and perhaps, in a few cases, above) the grade level tested. The following sections describe each of the six assessment subtests.

MATHEMATICS

APPLICATION

The items in this test (10 for grade four, 16 for grade eight) involved such problem solving skills as identifying exact facts, translating written information into mathematical equations, determining the correct operation and recognizing when the information presented is inadequate for the task required. The items consisted of short "story problems," with one or two questions about each. For example, one problem specified how many students were in each of six classrooms in a school, then asked how to find the total number of students in the school. Eighth grade students were also tested on their ability to correctly label answers and understand mathematics vocabulary.

COMPUTATION

This section focused on basic arithmetic—adding, subtracting, multiplying and dividing whole numbers (positive and negative), fractions and decimals. There were 12 such items on both the fourth and eighth grade tests. Although the items did not call for tedious computation, students needed a good understanding of how the computations must be carried out in order to answer the questions correctly. These items were multiple choice, and were so constructed that a common mistake would lead a student to one of the incorrect options. Careful interpretation of the students' responses may thus reveal the kinds of errors Alaska students often make in their computations.

CONCEPTS

The 1977 and 1979 assessment tests did not directly measure students' understanding of mathematics concepts, although some understanding may have been required to solve a few of the computation and application problems. Between 1979 and 1981, however, the Content Panel members added the new area of math concepts to the AOIB. The math concepts subtest of the 1981 assessment covered such topics as number properties, place value, rounding, telling time, units of measurement, equivalent fractions, and geometric shapes and properties. There were 15 math concept items on both the fourth and eighth grade tests. These items did not call for the students to perform any math computations, only to understand the concept in question.

READING

COMPREHENSION

The reading comprehension subtest of the Alaska Statewide Assessment Test followed a traditional format: a reading passage followed by several relevant questions. Students were asked to select the main idea, identify facts presented, make inferences, draw conclusions and so on. Both the fourth and eighth grade tests had five separate reading passages; each passage was accompanied by three test items. Since the difficulty of reading comprehension items depends greatly on the readability of the passages themselves, care was taken to ensure that the passages covered an appropriate range of difficulty for the grades tested.

STUDY SKILLS

Like math concepts, the study skills section was new in 1981. Reading Content Panel members identified the skills they felt were important in this area: using dictionaries, maps and graphs; selecting the best sources of information; gathering information from charts and tables; and other similar skills. There were 15 study skills items on the fourth grade test and 14 items on the eighth grade test. Panel members recognized that some schools might not teach all the skills covered in this area. Therefore, especially careful interpretation of the results is required.

WORD SKILLS

Initial work on the Alaska Objectives and Items Bank was directed toward identifying a set of phonics, vocabulary and word structure skills that are important cornerstones of reading proficiency. Those identified became the Word Skills section of the assessment tests. There were 15 items on the fourth grade test and 13 on the eighth grade test. The test items dealt with irregular vowel sounds, diphthongs, consonant blends and other phonetic skills; possessives, prefixes, suffixes and similar word structure concepts; synonyms and antonyms, multiple meaning words and other vocabulary skills.

1981 Assessment Test Results

The average scores obtained by students on the 1981 Alaska Statewide Assessment Test were reported in early May 1981. Since that time, more detailed analyses have been performed. But the average performance of students on each of the six subtests remains one of the most important pieces of information gathered from the assessment. That information, taken from the first assessment report distributed to schools last September, is reproduced below.

IMPORTANT: Whenever information of this type is presented, there is a danger that people will make inappropriate comparisons among subtests or grade levels. When comparing percentages, take care not to conclude that a higher percentage necessarily indicates a "better" performance. Because the tests were not comparable in difficulty, no such comparison is possible. For example, even though the fourth grade math computation score is higher than the eighth grade score, it would be incorrect to say that fourth grade students are "better" in math than eighth graders simply on the basis of this information.

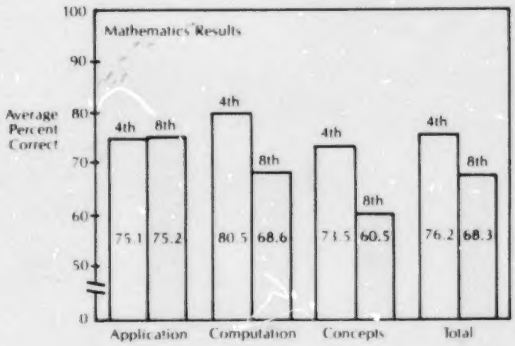
Statewide Average Scores

The graphs to the right show the average scores obtained by Alaska students on various sections of the 1981 Alaska Statewide Assessment Test. Based on a review of the test items, some observations about the students' performance can be made.

Mathematics

Both fourth and eighth grade students correctly answered about three-fourths of the math application items. But fourth graders correctly answered substantially more of the math computation items than did eighth graders. One factor was that eighth graders had considerable difficulty with three items involving negative numbers; none of the three problems was answered correctly by more than half the students.

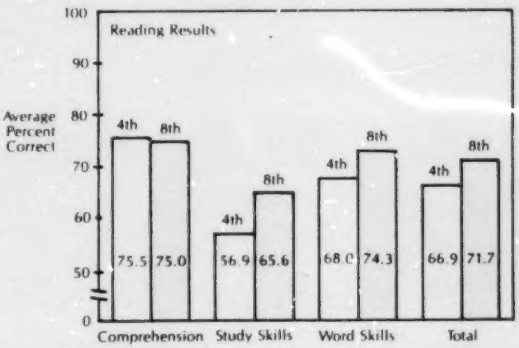
Differences in the math concepts subtest scores are less easily explained. However, the eighth grade test required more understanding of mathematics terms (such as pi, irrational numbers, number properties, etc.) than did the fourth grade section. It may be that some of the terms had not been taught to all students by the time the test was given. (It should be noted that the total math score is simply the average percent of items correct on all three subtests.)



Reading

Both fourth and eighth grade students correctly answered about three-fourths of the reading comprehension items. This similarity in scores is not surprising given that many of the same objectives were covered at both grade levels. In word skills, the eighth grade average score would have equalled the fourth grade score were it not for a very low performance (32 percent correct) on an item dealing with the possessive form of a plural noun.

When it was determined that study skills would be assessed, there was some concern about which particular skills should be measured. As mentioned before, there is no established curriculum for teaching study skills as there is for teaching math computation or phonics. Although the Content Panel selected skills they felt were important, it is likely that some students had not been instructed in all of the skills included on the tests. For example, eighth grade students did much better on using an index or reading a chart than they did in identifying out-of-date information or a biased source of information. How one views these scores depends largely on local expectations. Lower scores may be acceptable if learning to deal with such concepts as out-of-date or biased information is not an important part of a district's instructional program.



Hotline Number Changed

Throughout this school year, a special no-cost telephone number has existed to allow educators across the state to contact the Department's evaluation contractor. Now that the evaluation has been completed, a separate number for this purpose is no longer needed.

There will, however, still be an Assessment Hotline. Information about any of the 1981 test results or the plans for the 1983 Assessment can be obtained from Interwest Applied Research using the new hotline number.

Assessment Hotline 1-503-223-3396 COLLECT

Answers to Questions about the Assessment Results

The value of any statewide assessment is measured by its usefulness to educators and citizens. And this usefulness, in turn, depends greatly on effective reporting of results. At the same time, it is extremely difficult to reduce literally millions of pieces of data to a manageable size. Assessment reports of several hundred pages are not uncommon, but their appeal is understandably limited.

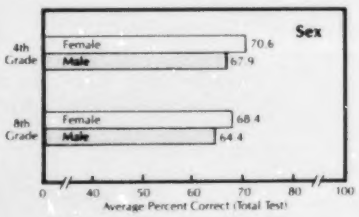
On this and the following two pages, an attempt has been made to answer some questions that might be asked about the results of the 1981 assessment. Please keep in mind that considerably more detailed information can be obtained by contacting either the Department of Education in Juneau or Interwest Applied Research in Portland (503/223-3396).

Was the students' performance satisfactory?

"Satisfactory test performance," like beauty, is in the eye of the beholder. A test score of, say, 75.1 percent cannot be judged "good" or "bad" without regard to other factors—and even then, no judgment is wholly objective. Obviously, if we gave the fourth grade test to eighth grade students, we would be disappointed if eighth graders' average scores were not substantially higher. A fine performance for fourth graders would in most cases be well below our expectations for eighth graders. By the same token, substituting easier or harder items should change our expectations for "satisfactory" performance.

This is perhaps the most important point to remember when considering assessment results: No one can determine whether performance is satisfactory without considering (1) the students who took the test and (2) the content of the test. As noted, the Content Panels selected the reading and mathematics skills which they judged critical to the education of most Alaska students. Some educators may disagree with the selection. But anyone reviewing the assessment results must consider both test content and the students' characteristics before deciding whether their performance was satisfactory. Such a review is already underway statewide (see page 7), and results will be presented in early May.

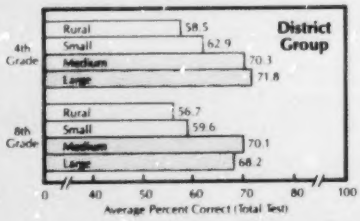
Who scored higher—boys or girls?



Although no judgments can yet be made about the adequacy of performance, it is possible to look at differences by groups. For example, girls generally outscored boys. Fourth grade girls averaged about 58 items correct on the 82-item fourth grade test, while boys averaged a little fewer than 56 items correct. The difference was even greater at the eighth grade level, where girls averaged 58 items correct (nearly four more than boys) on the 85-item eighth grade test.

Boys did outscore girls on one subtest: fourth grade math concepts. But in all other areas, performance by female students was—statistically speaking—significantly better than performance by male students. This difference, however, may have little educational significance. The reasons for the lower performance of males are not obvious and it is unlikely that changes in the educational process are warranted on this basis. It is well to keep this concept of educational significance—as compared to statistical significance—in mind when considering the remainder of these results.

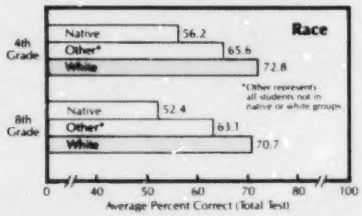
Does district size make a difference in scores?



As shown by the chart on the left, students in medium and large districts scored higher than students in small and rural districts at both the fourth and eighth grade levels. For purposes of this analysis, the 52 Alaska districts were categorized by size and type. "Large districts" were those with over 2500 students, districts with 1500 to 2500 students were classified "medium," and the remaining city districts were considered "small." The other 21 districts (those outside incorporated areas) were classified "rural."

At the fourth grade level, rural districts obtained the lowest scores, and test performance improved with district size. At the eighth grade level, however, students in medium-sized districts scored slightly higher than students in large districts and there was no significant difference between students in small and rural districts. District size alone, however, does not account for differences in performance; several of Alaska's small and rural districts had scores well above the state average.

How did Alaska Natives perform on the test?



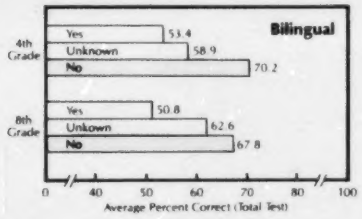
Native students scored significantly lower than did Alaska's non-Native students on all sections of the tests. On the fourth grade test, Native students averaged nearly 14 fewer items correct on the total test than did white students; in eighth grade, they answered 16 fewer items correctly. It is difficult, however, to determine the educational significance of this difference. The test content selected by the Content Panels may not have matched the curriculum in predominantly Native districts even though panel members tried to select objectives that would be considered important by any school district.

When considering these results, don't forget to consider the potential for interaction between race and other characteristics. Also, since there is little similarity among the Black, Hispanic, Asian and other non-white students assigned to the "Other" group, inferences about the meaning of their performance should be drawn very carefully, if at all.

Does district size account for some portion of Native/white differences?

Native students form a higher proportion of the students in Alaska's small and rural districts than in the state's large and medium districts. It is possible that the lower scores of Alaska Natives might be associated with their attendance at smaller schools. A statistical analysis showed that district size had some impact on students' scores, but it failed to account for the majority of the difference. White students scored higher than Natives regardless of whether they were in urban or rural schools. However, Native students in urban schools scored higher than their counterparts in rural schools.

What is the relationship between race and bilingualism?



Native students who speak a language other than English scored consistently lower than Native students who speak only English. For example, fourth grade bilingual Natives averaged only 45 percent of the items correct on the total test; nonbilingual Native students averaged nearly 59 percent of the items correct. At the eighth grade level, average scores were 46 percent for the Native bilingual students, 55 percent for the Native nonbilingual students. White bilingual students at both the fourth and eighth grades scored lower than nonbilingual whites and higher than either bilingual or nonbilingual Native students. But as there were fewer than 50 white bilingual students tested in each grade, these comparisons are not particularly meaningful.

Although bilingual Native students scored lower than nonbilingual Native students on all sections of the test, the difference was less pronounced in, for example, math computation (where their scores were less than 10 percentage points lower) than in reading comprehension (where the difference ranged between 12 percent at fourth grade and 15 percent at eighth grade).

Why are the scores of Native students consistently lower?

It is extremely important that all readers recognize that the lower scores of Native students are not ***caused*** by their being Native, but by other associated factors which, when taken together, contribute to the lower scores. We have already discussed the impact of two variables (district size and bilingualism) that are related to test performance; countless others—many probably impossible to trace—also influence test performance. Alaska's Native students tend to live in more isolated locations with harsher climates, some may not be used to taking standardized tests with separate machine scorable answer sheets, and they do not have access to as many books, magazines, newspapers, etc., as their non-Native counterparts.

There are other possibilities. Many Native students are bilingual, and the lower scores of bilingual students may reflect, in part, problems in student-teacher interactions which sometimes occur when their teachers are not bilingual. Another possible factor contributing to lower Native scores is the high teacher turnover in small and, especially, rural school districts where Natives form a larger proportion of the students. Whether these or any of a hundred other factors significantly affect test scores is a question that cannot be answered without much greater research.

To say that certain factors are related to test performance is much different from saying that such factors ***cause*** high or low scores. Readers should keep this difference in mind as they review assessment results. From time to time, one reads that researchers have found the condition of the nation's economy is related to such things as the length of women's skirts or which football team wins the Super Bowl. Clearly, the length of women's skirts is not the ***cause*** of changes in the economy; it is simply ***related*** to economic conditions. Likewise, being a female does not in and of itself cause a student to score higher on an assessment test. But for hundreds of reasons, being female is related to having higher scores on the 1981 Alaska Statewide Assessment Test. There is also nothing about going to school in a small district, being bilingual or being Native that ***causes*** students to have lower test scores. To find the reasons for the performance, research would have to be conducted that goes far beyond the scope of a general assessment.

Perhaps the most important point to consider is that the lower scores of Alaska Natives may not, in some cases, be cause for concern. The Alaska Assessment Test is designed to measure basic skills considered by the Content Panel members to be important and taught to the majority of Alaska's students. Indeed, many Alaska educators feel that all students—regardless of the community in which they live—must master certain basic skills if they are to profit from their schooling and compete successfully in modern-day Alaska. But in Alaska, decisions about what to teach students are made by local school boards and educators. Some districts have made a conscious decision to emphasize content—such as Native culture and language—that is not included on the assessment. This emphasis may cause lower assessment test scores, but those scores say nothing about the quality of the education provided to the students in those districts. Therefore, educators and citizens in all local districts should examine the test results in light of their own unique expectations and goals.

How do the 1981 results compare to previous assessments?

The assessment tests administered in 1977 and 1979 were identical, and it was thus possible to make comparisons between the two years. However, the 1981 test added two new areas, math concepts and reading study skills, that required substantial changes in the testing process. For that reason, the 1981 test was too different from the previous tests to permit comparisons.

The tests developed for use in 1983 and future years will not have the same test items as the 1981 tests, but they will be similar enough to permit comparisons of subtest, and in some cases, item scores between the two tests.

How is performance on one test section related to performance in other areas?

Perhaps not surprisingly, students who did well on one of the reading sections (reading comprehension, study skills or word skills) tended to do well on the other two sections. The same was true for mathematics, where students with high scores on one math section (application, computation or concepts) were likely to have high scores on the other math sections. The strongest relationship at the fourth grade level was between reading comprehension and study skills; at eighth grade it was between reading comprehension and word skills.

It was thought that there might be a strong relationship between the scores on the math application section (where the items required reading story problems) and reading comprehension. There was a modest relationship, but good math application scores related less to reading ability than to proficiency in math computation and concepts.

How good are the Alaska Assessment Tests?

All tests have a statistical characteristic called reliability. Reliability is simply an indication of how consistently a test measures whatever it is that is being measured. If two groups of students with comparable skills scored quite differently on the same test, that test would be said to have low reliability. Similarly, if a group of students scored very low on the test at one administration, then—without any additional instruction—suddenly scored very high at a second administration, the test would also be said to have low reliability. Obviously, an unreliable test would not be very useful.

Analyses done on the Alaska Assessment Tests indicate that their reliability is very good; figures show that the assessment tests are as reliable as the nationally distributed achievement tests used by many Alaska districts.

However, reliability doesn't indicate whether a test measures what it set out to measure. This characteristic, called validity, cannot be determined from analyzing test results alone. Validity is determined by reviewing test questions to determine whether appropriate and important skills are being tested. The Alaska Assessment Tests have demonstrated validity for the statewide testing purposes. But, as mentioned earlier, individual users of the assessment information are encouraged to consider results in light of the importance of the skills to their students.

How do the Alaska Assessment Test results relate to classroom instruction?

Many state educators wonder what relevance the assessment test results have for their students. The answer depends on the individual classroom, school or district. The test validity is the important issue here. Whenever the assessment test items reflect skills important to local educators, the results can indicate whether local goals are being achieved. Some districts may stress content which doesn't match that selected by the Content Panel members. But it is the opinion of the panels and many other educators in Alaska that proficiency in the basic skills of reading and math is the foundation of Alaska students' academic success.

What if I have questions you haven't answered?

Much more information is available about the Alaska Statewide Assessment than can be presented in these newsletters. Readers who have questions or who would like additional information are invited to contact either Al Hazelton at the Alaska Department of Education or Evelyn Brzezinski at Interwest Applied Research in Portland. Either person can answer questions about the assessment, send you copies of the 1981 tests, or provide information about the test scoring and reporting.

The Next Step—Interpreting Test Results

How do test results relate to the expectations of state educators? That question is now being answered by approximately 70 teachers, curriculum specialists and administrators from throughout the state who are serving as Interpretive Panel members. These 70 persons were nominated several months ago by superintendents from Alaska's districts and by the Content Panel members.

Based on their knowledge and experience, Intepretive Panel members set two performance levels for each test item. The first level was the "minimum" percentage of students that the panelists felt must get an item correct for performance to be considered acceptable. Panelists also identified a "desirable" level—the percentage of students they would like to see answer the item correctly. Obviously it would be nice to have everyone answer every item correctly, but Interpretive Panel members were careful to make their desired percentage levels realistic.

The Interpretive Panels

The Interpretive Panel members set these percentage levels without knowing how the students actually performed on the test. Staff at Interwest Applied Research took the results of the panelists' judgments and compared them to the actual test scores obtained on each item. Items whose scores fell below the minimum expectations of the panelists indicated weaknesses in students' skills; items whose scores were above the desired level indicated strengths. Scores which fell between the minimum and desired levels indicated "satisfactory" performance.

The Department of Education will release an ***Interpretation Summary Report*** in early May. This brief report will list, for each of the two grade levels, the skills identified by the Interpretive Panel as strengths, weaknesses and satisfactory performances.

District Test Interpretation

The decisions made by Interpretive Panel members regarding minimum and desired percentages for each item were combined to yield statewide average percentages. These percentages were used to determine the strengths and weaknesses to be presented in the ***Interpretation Summary Report***. In other words, these strengths and weaknesses will reflect state performance as a whole. The list in the Summary Report will not address the strengths and weaknesses of individual districts; thus, it would be a mistake for local educators to make major changes in district education based on the statewide interpretations.

It is possible, however, for local districts to conduct the same interpretion process that was done by the statewide Interpretive Panel. District or school staff can review test copies (available free from the Department) to develop minimum and desired performance levels for each item. These levels can then be compared against students' actual scores. (Interwest or the Department will furnish schools and districts with the materials and instructions for this process upon request.)

1983 Test Planning Underway

The Department of Education has already begun work on the 1983 assessment testing, scheduled for March 21 through 25. In planning for the 1983 testing, the Department will have the benefit of recommendations from several hundred Alaska educators who participated in a recently completed evaluation of the assessment program. As discussed earlier, the assessment was conducted primarily to collect data at a statewide level. Until this year, very little effort went into making results useful to local educators. Currently, an attempt is being made to modify administration, scoring and reporting procedures to make them match, as much as possible, the preferences expressed by local educators who participated in the evaluation of the assessment. Suggested procedures will be reviewed by Alaska's district superintendents prior to any final decision.

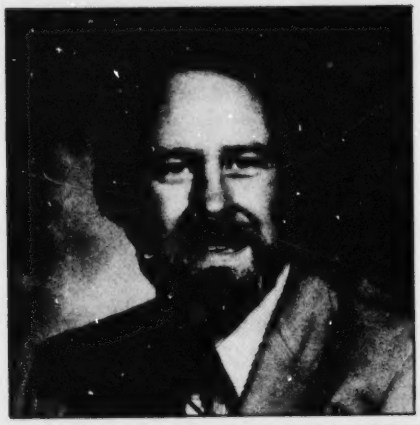
During this planning, the assessment Content Panels will review data from the test analyses and from the Interpretive Panel. Panelists will use this information to establish content for the 1983 tests. This summer, the contractor's staff will develop new items for the 1983 tests. In the fall, Content Panel members will review these test items and recommend changes. After revision, the items will be pilot tested and only those of adequate quality will be retained. The Content Panels will conduct a final review prior to printing.

Alaska Education: Where Do We Stand?

A report to Alaska educators and citizens

In 1974, educators from throughout Alaska met to determine how our state could best meet the growing concern of educational accountability. Citizens of Alaska needed tangible evidence that their schools were effectively educating the state's young people. In response to these concerns, the Alaska Statewide Assessment Program was established. It was hoped that the information obtained from regular assessments of student skills would lead to improved learning opportunities for the state's students. At the same time, assessment planners recognized the challenge of developing a testing program that successfully met the needs of Alaska's diverse population.

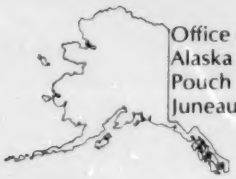
Last year (1981) witnessed the third assessment of Alaska's fourth and eighth grade students' basic skills. The tests covered objectives important to the ongoing education of Alaska students, as established by panels of educators from throughout the state. The statewide assessment attempts to reflect the concerns and goals which Alaska educators and citizens have about education. The assessment results are the only indicator we have of how well our students are mastering basic skills. This Report to the Public presents those results.



It is our hope that the information presented in this and forthcoming reports will be of assistance to the state's educators as they consider the results of the 1981 testing. Emphasis has been placed this year on seeing that the diverse audiences served by the assessment have access to data they need. Specific details about the assessment process or results are available from the Department of Education.

I wish to thank each of the several hundred educators from throughout the state who assisted in the construction, administration or evaluation of the 1981 assessment tests. We at the Department of Education are eager to make the Alaska Statewide Assessment a valuable tool for understanding and improving Alaska schools. Thus, I would like to solicit your continued interest and support in this process; any time you have questions or suggestions about the assessment, please feel free to contact me.

Marshall L. Lind
Commissioner of Education



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ASSESSMENT REPORT—Please Circulate To All Interested Individuals

ASSESSMENT REPORT 4: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

The Interpretation Summary

In late March 1981, Alaska's fourth and eighth grade students participated in the third Alaska Statewide Assessment. Given every other year, the assessment measures the achievement of students on important basic skills objectives. The results from the assessment give the only available indication of the achievement of Alaska's students on a statewide basis.

Scores from the 1981 Assessment have been available for over a year. In fact, the first three of these "Update" reports have discussed total test and subtest scores for various groups. But it was always necessary to point out that the test performance couldn't be judged "good" or "bad" until the item-by-item scores could be compared to the expectations held by state educators. The results of this interpretive process are the focus of this report.

The Interpretive Panels

Late last year, district superintendents and members of the Content Panels that assist with test development nominated a representative cross-section of educators in the state to serve as the 70 Interpretive Panel members. Panelists closely examined each of the items on the test sections. They then established two levels of expectations—the ***minimum*** (the lowest percent of students answering correctly that they would consider acceptable performance) and the ***desired*** (the percent correct they saw as a goal for student performance). When the actual performance fell below the minimum, the performance showed a weakness; when it exceeded the desired level, a strength was indicated. Performances between the two levels were considered satisfactory.

Interpretive Panel members made two judgments of minimum and desired levels. The first set of levels was established in isolation; the panelists responded based only on their own opinions. Panel members made their second judgments after having reviewed the average responses of their fellow panelists. But in neither case did the panel members know the test scores actually obtained by the students. Through this process, Assessment Program staff hoped to receive an unbiased indication of the expectations held by the state's educators.

Evaluating Strengths and Weaknesses

Identifying basic skills strengths and weaknesses through the Interpretive Panel process is simple compared to the task of determining the implications of such results. This report lists the test items on which the performance of Alaska students was above or below the expectations held for them by their teachers and school administrators. But the report does not attempt to say what impact, if any, the results should have on education in the state.

There are several important factors to consider when examining the strengths and weaknesses shown by the test. First, the Alaska Assessment Tests are not minimum competency tests. The skills measured by the test are not minimum level skills, and not all students were expected to answer an item correctly.

Also, remember that Alaska has no "statewide curriculum." Each of Alaska's 52 districts independently determines the content to be taught at a given grade level. Consequently, some districts may not have taught certain assessment test skills prior to the test administration in late March. Although Interpretive Panel members considered this factor when establishing expectations, each apparent weakness is best evaluated in light of the curriculum goals of local districts.

Finally, keep in mind that items which measure the same skill could vary considerably in difficulty. For example, 56% of the state's fourth graders could use a graph presented in the test to determine the accuracy of a statement. But the 56% result applies only to the particular graph and statement in the test; both easier and harder items would have been possible. Examining the actual test items may be useful; review copies of the tests are available at no cost from the Department of Education (907/465-2966).

ALASKA ASSESSMENT PROGRAM

This is another in a series of reports to Alaska educators and other interested persons about the results of the 1981 Alaska Statewide Assessment and plans for the next assessment in 1983. This report is prepared under the direction of the Office of Planning and Research of the Alaska Department of Education, Alexander E. Hazelton, Supervisor of Research. *Copyright © April 1982 by the Alaska Department of Education and Interwest Applied Research, Inc.* *The Department encourages questions and comments about the assessment process; inquiries and suggestions should be directed to Dr. Hazelton at the Department of Education, Pouch F, Juneau, Alaska 99811; (907) 465-2966. Additional copies of this and previous reports are available upon request.*

Mathematics Strengths and Weaknesses

Math Application

Grade 4

Item 1. 95% could add two one-digit numbers to find a total. Desired was 94%. ***A strength.***

Item 3. 92% could determine how to find the total number of records three students had. Desired was 89%. ***A strength.***

Item 9. 57% could select the equation to find the perimeter of a skating rink. Minimum was 59%. ***A weakness.***

Item 10. 85% could recognize information (acres burned in a fire) from the problem. Desired was 83%. ***A strength.***

Grade 8

Item 1. 74% could find the difference between the total of two sets of three scores. Minimum was 76%. ***A weakness.***

Item 2. 56% could find the average amount spent on gas over three weeks. Minimum was 72%. ***A weakness.***

Item 9. 75% could identify the distance around a piece of leather as its perimeter. Minimum was 76%. ***A weakness.***

Item 11. 72% could identify what the problem asked the student to find. Minimum was 76%. ***A weakness.***

Item 12. 59% could select the equation to find how much film remained in a camera. Minimum was 69%. ***A weakness.***

Item 14. 63% could identify missing information that was needed to calculate an average. Minimum was 72%. ***A weakness.***

Item 15. 61% could identify information which was not needed to solve the problem. Minimum was 72%. ***A weakness.***

Item 16. 52% could select the equation which calculated the product of two numbers. Minimum was 71%. ***A weakness.***

Math Computation

Grade 4

Item 13. 90% could solve 4.173 + 0.308. Desired was 80%. ***A strength.***

Item 17. 82% could solve 1.099 − 0.186. Desired was 80%. ***A strength.***

Item 20. 52% could solve 179 x 52. Minimum was 57%. ***A weakness.***

Item 21. 57% could divide 3156 by 6. Minimum was 58%. ***A weakness.***

Item 22. 39% could divide 451 by 53, including the correct remainder.Minimum was 50%. ***A weakness.***

Grade 8

Item 17. 66% could solve (−502) + (−162). Minimum was 70%. ***A weakness.***

Item 21. 33% could solve 842 − (−531). Minimum was 62%. ***A weakness.***

Item 22. 67% could solve 52.71 − 1.096. Minimum was 77%. ***A weakness.***

Item 23. 48% could solve (−44) × (−8). Minimum was 66%. ***A weakness.***

Item 25. 46% could divide −64 by −8. Minimum was 64%. ***A weakness.***

Item 27. 64% could divide 52,443 by 37, including the correct remainder. Minimum was 79%. ***A weakness.***

Item 28. 56% could divide 4 2/9 by 1/9. Minimum was 71%. ***A weakness.***

Math Concepts

Grade 4

Item 23. 88% could identify the correct words for 1,086. Desired was 85%. ***A strength.***

Item 27. 65% could round 684 to the nearest hundred. Minimum was 66%. ***A weakness.***

Item 28. 63% could identify the single odd number in a set of four numbers. Minimum was 70%. ***A weakness.***

Item 31. 49% could identify kilograms as the metric unit used to weigh people. Minimum was 57%. ***A weakness.***

Item 32. 89% could identify feet as the customary unit used to measure the length of a rope. Desired was 88%. ***A strength.***

Item 33. 47% could specify how many centimeters are in a meter. Minimum was 57%. ***A weakness.***

Item 34. 39% could specify how many feet are in a yard. Minimum was 67%. ***A weakness.***

Grade 8

Item 30. 44% recognized that if A times B equals C, then C divided by B equals A. Minimum was 48%. ***A weakness.***

Item 31. 38% recognized that (E+F) × G is equal to (ExG) + (FxG). Minimum was 48%. ***A weakness.***

Item 32. 47% recognized that increasing a circle's diameter increases its circumference. Minimum was 59%. ***A weakness.***

Item 35. 36% recognized pi as the ratio of circumference to diameter. Minimum was 53%. ***A weakness.***

Item 38. 58% could identify the greatest common factor of 12, 24 and 28. Minimum was 66%. ***A weakness.***

Item 39. 70% recognized 1/6 and 3/18 as equivalent. Minimum was 75%. ***A weakness.***

Item 40. 40% could identify the square root of 5 as an irrational number. Minimum was 42%. ***A weakness.***

Item 43. 59% could round 2.16 to the nearest tenth. Minimum was 74%. ***A weakness.***

Reading Strengths and Weaknesses

Reading Comprehension

Grade 4

Item 4. 84% could identify the main idea of the given passage. Desired was 82%. ***A strength.***

Item [illegible] 88% could identify a specific fact paraphrased from the given passage. Desired was 86%. ***A strength.***

Item 8. 48% could identify the opinion statement in a set of four statements. Minimum was 59%. ***A weakness.***

Item 15. 84% could select which of four statements gave the best support for a specified conclusion. Desired was 80%. ***A strength.***

Grade 8

Item 6. 49% could identify the technique used to organize the given passage. Minimum was 53%. ***A weakness.***

Item 10. 38% could judge whether sufficient evidence had been given to support a specific conclusion. Minimum was 68%. ***A weakness.***

Item 11. 62% could specify the major point being made by the author of the given passage. Minimum was 70%. ***A weakness.***

Study Skills

Grade 4

Item 17. 50% could use dictionary definitions to identify an incorrect use of a word. Minimum was 62%. ***A weakness.***

Item 18. 50% could use dictionary guide words to identify a word that would be on a given page. Minimum was 65%. ***A weakness.***

Item 19. 46% could use an index to locate the pages for a specified topic. Minimum was 72%. ***A weakness.***

Item 20. 56% could use an index to locate the pages for a specified topic. (Same skill as item 19.) Minimum was 68%. ***A weakness.***

Item 21. 62% could use guide letters to select which topic would be in a volume of an encyclopedia. Minimum was 72%. ***A weakness.***

Item 22. 61% recognized the table of contents as the place to find the titles of a book's chapters. Minimum was 73%. ***A weakness.***

Item 23. 51% selected the best heading in an encyclopedia to reference for specified information. Minimum was 70%. ***A weakness.***

Item 24. 60% could identify the capital of a country from a map with the capital marked with a symbol. Minimum was 73%. ***A weakness.***

Item 25. 56% could use a graph to determine the accuracy of a statement. Minimum was 62%. ***A weakness.***

Item 26. 54% could use written directions to obtain information needed to answer a question. Minimum was 66%. ***A weakness.***

Item 27. 60% could use a table of contents to locate specified information. Minimum was 63%. ***A weakness.***

Item 28. 47% could use a table of contents to locate specified information. (Same skill as item 27.) Minimum was 64%. ***A weakness.***

Item 29. 57% could use the definitions in a glossary to identify a drawing of an object. Minimum was 65%. ***A weakness.***

Item 30. 57% could answer a question from the information presented on a road map. Minimum was 64%. ***A weakness.***

Grade 8

Item 16. 43% could use the information in a table to answer a specific question. Minimum was 71%. ***A weakness.***

Item 20. 65% could answer a question from the information presented on a physical map. Minimum was 68%. ***A weakness.***

Item 21. 22% could identify a book with out-of-date information. Minimum was 70%. ***A weakness.***

Item 22. 36% could identify which of four statements (with their sources specified) is least biased. Minimum was 58%. ***A weakness.***

Item 24. 54% could use written directions to obtain the information needed to answer a question. Minimum was 61%. ***A weakness.***

Item 29. 53% could identify which of four statements is most believable. Minimum was 61%. ***A weakness.***

Word Skills

Grade 4

Item 31. 50% recognized "chip" and "church" as having the same initial blend sound. Minimum was 77%. ***A weakness.***

Item 32. 39% recognized "krill" and "crop" as having the same initial blend sound. Minimum was 77%. ***A weakness.***

Item 33. 69% recognized "be" and "meat" as having the same vowel sound. Minimum was 78%. ***A weakness.***

Item 34. 70% recognized "pet" and "west" as having the same vowel sound. Minimum was 79%. ***A weakness.***

Item 35. 77% recognized "out" and "how" as having the same vowel sound. Minimum was 78%. ***A weakness.***

Item 36. 71% recognized "pay" and "date" as having the same vowel sound. Minimum was 78%. ***A weakness.***

Item 37. 67% recognized "jerk" and "turn" as having the same vowel sound. Minimum was 78%. ***A weakness.***

Item 38. 58% correctly used "houses" to complete a sentence requiring the plural of house. Minimum was 74%. ***A weakness.***

Item 39. 60% correctly used "plays" to complete a sentence requiring the present tense of play. Minimum was 74%. ***A weakness.***

Item 40. 69% correctly used "carried" to complete a sentence requiring the past tense of carry. Minimum was 72%. ***A weakness.***

Item 41. 56% correctly used "sheep" to complete a sentence requiring the plural of sheep. Minimum was 70%. ***A weakness.***

Item 44. 55% recognized "innocent" as the opposite of "guilty." Minimum was 71%. ***A weakness.***

Grade 8

Item 30. 80% identified "boy" as having the same vowel sound as "join." Desired was 74%. ***A strength.***

Item 31. 77% identified "she" as having the same vowel sound as "[illegible]." Desired was 76%. ***A strength.***

Item 33. 40% identified "letter" as having the same ending sound as "color." Minimum was 64%. ***A weakness.***

Item 34. 32% correctly used "students'" to complete a sentence requiring the plural possessive of student. Minimum was 59%. ***A weakness.***

Item 38. 61% recognized "enraged" as equivalent to "put into a rage." Minimum was 66%. ***A weakness.***

Item 40. 63% recognized "accepted" as the opposite of "rejected." Minimum was 71%. ***A weakness.***

Alaska Educators Hold High Expectations

How well do students meet those expectations?

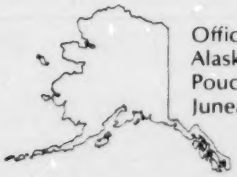
The expectations state educators hold for basic skills achievement by Alaska's fourth and eighth grade students are frequently higher than the students' actual performance. This is the most significant finding of a recently completed study which compared 1981 Alaska Assessment test scores with the expectations held by Alaska teachers and administrators.

This study, termed the Assessment Interpretive Panel Process, asked a representative sample of educators to establish a minimum level of performance for each of the items on the 1981 Assessment Tests. The panelists also established a desired level of performance. The levels were set without any knowledge of the actual test scores for each item. The panelists' expectations were then compared to the results from the March 1981 testing.

The comparison served to classify the students' performance on each item as either a strength (when scores exceeded the desired level), a weakness (when scores fell below the minimum level) or satisfactory (when scores were between the minimum and desired levels). Thus, a strength or weakness is not established solely by student scores, but by a combination of scores and expectations. This report lists the strengths and weaknesses established by the Interpretive Panels.

	Mathematics			Reading		
	Application	Computation	Concepts	Comprehension	Study Skills	Word Skills
GRADE 4						
Strength	3	2	2	3	0	0
Satisfactory	6	7	8	11	1	3
Weakness	1	3	5	1	14	12
Total Items	10	12	15	15	15	15
GRADE 8						
Strength	0	0	0	0	0	2
Satisfactory	8	5	7	12	8	7
Weakness	8	7	8	3	6	4
Total Items	16	12	15	15	14	13

As shown by this chart, student test results frequently fell below the Interpretive Panel's minimum expectation. The question of what, if anything, to do about the weaknesses pointed out by the assessment will require considerable thought by the state's educators and citizens. But there is no question that, on a statewide basis, some expectations for student achievement have not been met. As you examine this report, look at the test scores in light of your own expectations and determine for yourself where weaknesses actually exist.



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ASSESSMENT REPORT—Please Circulate To All Interested Individuals

ASSESSMENT REPORT 5: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

1983 Assessment Scheduled

Educators in Alaska's schools and district offices should mark their calendars for the week of March 21-25, 1983. These are the dates of the fourth Alaska Statewide Assessment, as announced recently by the Department of Education. During this week, every fourth and eighth grade student in a regular classroom will be tested on important reading and math skills.

Many educators who worked in Alaska during 1977, 1979 or 1981 probably recall similar testing activities. Administered biennially, the Statewide Assessment Program was established in the mid-1970s in response to both public and professional needs for information about students' academic performance. Currently, the Assessment provides the only available indication of achievement for groups of students on a statewide basis.

What Educators Think About the Assessment

How effective is the Alaska Statewide Assessment Program? How efficient are the testing procedures? What changes could make the program more responsive to educators?

To answer these questions, an evaluation team composed of testing experts—including the former director of the National Assessment of Educational Progress and the former Michigan Associate Superintendent of Public Instruction who guided the highly regarded Michigan Educational Assessment Program—gathered information from a wide variety of sources. Alaska Department of Education personnel, staff at both district and local levels, officials in State government, community spokespersons and representatives of professional organizations have all provided feedback through face-to-face interviews, questionnaires and telephone contacts.

Last spring the evaluation team reported two major findings. First, the majority of Alaska educators were satisfied with the 1981 assessment procedures and preferred them to any alternatives offered. In keeping with this finding, the structure of the upcoming assessment remains basically unchanged. (The Department of Education can, however, work with individual districts to accommodate specific needs. Contact Al Hazelton, the Department's Supervisor of Research, at 465-2966.)

Second, educators want test results to be more useful to local districts. In response to this need, the Department is currently examining several options for analyzing results at the local level. Plans to provide more specific test results are also under consideration (see related article on page 3). Department representatives note that implementation of these options depends somewhat on available resources, but even more on the degree of interest voiced by educators.

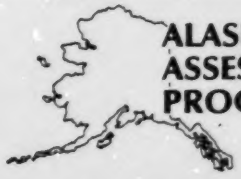
Evaluation results also suggest that communication regarding testing plans could be improved. Department of Education personnel, in an effort to meet this need, will soon be sending educators test information packets (discussed below) about the 1983 tests. Other assessment-related information and materials will be sent to schools and districts throughout the year; see the calendar on page 3.

Test Content Information Coming Soon

Educators who want to know more about the content of the 1983 Statewide Assessment Test will not have long to wait. The Department of Education plans to send materials designed to help educators prepare for the upcoming assessment to every school district in the state during the next few weeks.

The materials include a complete list of the objectives to be measured in the 1983 tests, copies of the 1981 tests (with content changes between the 1981 and 1983 tests noted), and examples of the test answer sheets. These materials will give local educators information on test content and format. Alaska districts may copy any of these materials for use by local school staff.

A reproducible booklet presenting important test-taking strategies for students will be distributed at the same time. The skills described in the booklet will help students do their best on any test, not just the Statewide Assessment.



This is another in a series of reports to Alaska educators and other interested persons about the 1983 Alaska Statewide Assessment and the Assessment Program in general. This report is prepared under the direction of the Office of Planning and Research of the Alaska Department of Education, Alexander E. Hazelton, Supervisor of Research. *Copyright © October 1982 by the Alaska Department of Education and Interwest Applied Research, Inc. The Department encourages questions and comments about the assessment process; inquiries and suggestions should be directed to Dr. Hazelton at the Department of Education, Pouch F, Juneau, Alaska 99811, phone (907)465-2966. Additional copies of this and previous reports are available upon request.*

Ten Important Features of the 1983 Statewide Assessment

Facts You Need to Know

Several hundred state educators participated in the evaluation activities (described on the first page) which helped to shape the assessment. Whenever possible, the 1983 assessment is designed to reflect the information gathered by that evaluation. Thus, in keeping with Alaska educators' stated preferences, a profile of the 1983 assessment shows many similarities to the testing plan for 1981:

1 Testing will take place during the week of March 21-25, 1983. This week best balances the need to test at the end of the school year and the desire to return results to the schools before early May. Local staff should make sure that these dates will not conflict with other district testing sessions.

2 With only a few exceptions related to handicapped students, every fourth and eighth grade student will be tested. Testing every student provides schools and districts with complete and continuous indications of performance, something not possible with sampling.

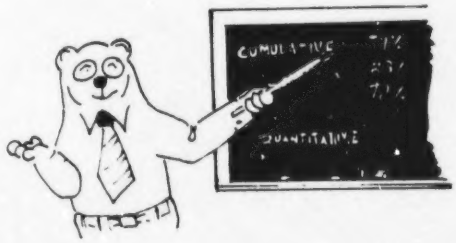
3 Tests will be administered by regular classroom teachers. In schools where the eighth grade students have multiple teachers, districts should determine the most efficient method of administration.

4 Teachers will not need special training to administer the tests. The directions for the test are straightforward and there are no oral items.

5 Tests will require two administration periods (one for mathematics and one for reading) of slightly less than one hour each. The mathematics section is usually given first. A minimum of half a day should be allowed between the sections.

6 The assessment test has three sections on mathematics (application, computation and concepts) and three sections on reading (comprehension, study skills and word skills). Each of the six subtests averages 15 items.

7 District averages will be available to those districts that request them prior to the testing. District reports will probably be sent at the same time as statewide averages.



8 Test scores will be reported for each student tested. The scores are reported on a classroom report form that gives individual student and classroom average scores for the six subtests, total math and total reading. Student answer sheets will be sent directly to the scoring contractor, Interwest Applied Research, in Portland, Oregon. Reports of test results will be mailed to individual schools within 24 hours of receipt of the answer sheets in Portland. Reports sent to district offices will be mailed within 48 hours of receipt of the answer sheets from all schools in the district.

9 As in the 1981 assessment, panels of educators from across the state will examine the statewide results for each skill measured to identify apparent strengths and weaknesses. This interpretive information will be provided either at the end of the 1982-83 school year or at the start of the 1983-84 school year. The information from the 1981 test was reported last spring in Assessment Report 4.

10 Statewide averages will be sent to districts and schools as soon as possible—probably between May 1st and May 15th.

How Was the Assessment Content Established?

Alaska educators who will administer and use the results of the 1983 assessment tests should be aware of the method used to establish the test content. The tests students and educators will see in March represent the product of a process that began back in 1975.

Statewide Panels Set Content

When the Assessment Program began, panels composed of reading and math experts from thoughout the state developed a set of skills they considered important for Alaska's students. Of course, each district in Alaska chooses its own curriculum and not all students are taught the same skills. The Content Panel members therefore focused on basic skills considered important on a statewide basis even if an individual district might not include the skills in its curriculum. The set of objectives selected includes both very basic skills, which panelists expect almost all Alaska students to master, and more advanced skills which may not be taught in every school at the grade tested.

After objectives were identified, test items which met the panels' specifications were created, reviewed and pilot tested. Test items carefully avoided places or situations which would be inappropriate for the wide variety of student backgrounds in the state. Because of these careful test construction procedures, the assessment tests have had excellent technical characteristics.

Common Content Retained

The 1983 testing will be the fourth statewide assessment. The Content Panels chose to have the coming test cover most of the skills measured in 1981. This will permit comparisons of performance across years. Future assessments are also likely to maintain a common core of objectives. Research is also underway, however, to determine the feasibility of adding a locally-selected group of objectives to the test content.

1982-83 ASSESSMENT CALENDAR

While the testing itself will occur during the week of March 21-25, preparation for 1983's assessment will begin much sooner. The tests themselves are now going through a pilot testing phase. Changes suggested by the pilot will be made, after which the tests will be reviewed one last time by content and bias experts. Final printing is done in January.

Although the assessment testing takes less than two hours, it still requires sound planning by local educators to be completed efficiently. None of the responsibilities of local staff are time consuming, but each is important. The following calendar presents a schedule of the upcoming assessment activities.

1982-83 Assessment Events

November
- *District Test Representatives identified*
- *Test-taking skills information sent to district*
- *Assessment content information sent to district*

December
- *District determines number of students to be tested*
- *Bias review of test items completed by Department*

January
- *Last opportunity to arrange specialized local reporting*
- *Test procedures reviewed with District Representatives*

February
- *Test materials mailed to schools*

March
- *Test materials arrive at schools*
- *Test directions reviewed by local staff*
- *Tests administered (March 21-25)*
- *Answer sheets returned for scoring*

April
- *Tests scored and reports mailed to schools*
- *Specialized local reports completed*

May
- *Statewide average scores sent to schools*
- *Statewide strengths and weaknesses established (tentative)*

June
- *Technical summary of test performance developed*

Assessment Hotline Back in Business

Assessment Hotline
1-503-223-3396

If you can get to a telephone, you can get information or offer suggestions about the upcoming assessment. The Assessment Hotline used for the 1981 testing and the 1982 assessment evaluation has been re-established for use by Alaska educators. A call to the Hotline number puts you in touch with knowledgeable assessment staff who can answer your questions about the assessment.

The Department of Education encourages the participation of local educators in the assessment process. This Hotline is designed to make that participation as convenient as possible. If you have questions about or suggestions for the upcoming assessment, be sure to call. You can also use the Hotline to discuss options for special reporting of test scores or to discuss logistics for the test. Simply call (503)223-3396 COLLECT any weekday between 9 a.m. and 4 p.m., Pacific Time. Tell the person answering that you are calling about the Statewide Assessment. Your call will be accepted and someone familiar with the assessment will speak with you. It's as easy as that. We look forward to hearing from you.

Local Analysis and Reporting Options Under Consideration

As mentioned earlier, the evaluation of the Assessment Program gave it high marks for its primary purpose—accumulating statewide achievement information—but encouraged the program staff to make the test information more useful to local educators. With the advent of effective schooling efforts throughout the state, achievement information provided by tests created specifically for use in Alaska may be even more important to district personnel.

For these reasons, the Department of Education will assist local educators in obtaining useful information from the assessment. For example, summaries of average district performance for each section of the 1983 assessment test will be compiled and sent to districts upon request. Similarities between the 1981 and 1983 assessment tests allow valid comparisons to be made between results from the two test administrations. Districts can compare results from the 1981 and 1983 assessments as one measure of growth on the objectives covered on the two assessments.

Local educators may also be interested in item-by-item analyses. These can be used to compare students' performance at the district level with comparable student performance statewide. When used in a district level interpretation process, these analyses point out specific strengths and weaknesses in student performance. Those interested in this scoring alternative should discuss available options with the staff at Interwest Applied Research on the Assessment Hotline.

Educators who have access to Apple II microcomputers may be interested in a possible new option: a computer program that calculates students' strengths and weaknesses at the local level. Plans to develop such a program (or a workbook with directions for hand calculations) are currently under consideration. If this option sounds useful to you, please use the Assessment Hotline to make your interest known.

ASSESSMENT POLICIES UNCHANGED FOR 1983

Established Guidelines Shape the Assessment

Like many innovative concepts, the Alaska Statewide Assessment Program has changed since its inception in 1974. The scope of the program has broadened to include testing every fourth and eighth grade student instead of the 20 percent sample in 1977 and 1979. Test content has expanded to include math concepts and study skills. Administration and reporting procedures have been refined, and turnaround time for test results has been significantly reduced.

These changes have been well received, according to an extensive evaluation of the program. The majority of Alaska educators indicated general satisfaction with the framework of the 1981 assessment. Policies for the 1983 assessment will therefore remain unchanged.

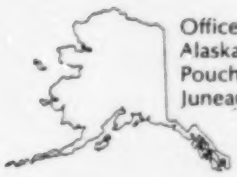
Major Statewide Assessment Policies

- *The assessment is to focus on collecting statewide information about the performance of its students. It should, however, provide as much information to local educators as is possible in accomplishing this task.*
- *The assessment shall not be a minimum competency test; it should collect information about a wide range of skills, not just those considered "minimums."*
- *The Department of Education will not compare (or facilitate comparisons among) students, teachers, schools or districts across the state.*

Alaska's assessment policies were established to meet unique needs of the state. The development of assessment procedures was guided by a Policy Board composed of educators from throughout the state. The policies established by this board still form the basis of the assessment procedures used today. While the assessment program benefits from constant evaluation and refinement, none of the assessment activities conflict with the policies established by the Policy Board.

The most important policy established for the assessment—and the one that differentiates Alaska from many other states—is that the assessment data are not used to compare any schools or districts. In recognition of the differences in the curriculum and goals of the state's school districts, and the individual differences among their students, the Policy Board decided that such comparisons should not be made. Only statewide comparisons (males versus females, bilingual versus non-bilingual students, etc.) are to be performed.

Other important policies concern the focus on reading and mathematics, the testing at fourth and eighth grade; the emphasis on collecting statewide data, and the use of items of varying difficulties. Each of these is a result of early policy decisions. For additional information on the assessment policies and how they were established, or to suggest reviews of certain policies, please contact Al Hazelton at the Department of Education.



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ASSESSMENT REPORT—Please Circulate

ASSESSMENT REPORT 6: An Update on the ALASKA STATEWIDE ASSESSMENT PROGRAM

The 1983 Assessment

Over 12,000 Alaska fourth and eighth grade students participated in the fourth Alaska Statewide Assessment during the week of March 21-25, 1983. Designed to measure the students' attainment of important mathematics and reading skills, the assessment provides valuable information for educational planning and instruction.

Using the assessment results, school personnel can identify strengths and weaknesses in the instructional process. Educators can also observe changes in performance of their fourth and eighth grade students over time. But test data must be analyzed carefully and objectively before it can be used in educational decision making.

Class Reports Sent to Schools

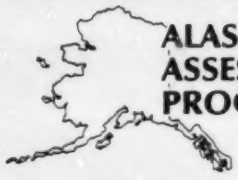
When school personnel completed administration of the Statewide Assessment Tests to their fourth and eighth grade students, the answer sheets were mailed to Interwest Applied Research in Portland. At Interwest, an innovative scoring system using a microcomputer and a small mark reading machine made it possible to score answer sheets soon after they arrived. In Portland, a classroom report was prepared which listed individual students' scores on each test section, as well as average classroom performance. These reports were returned to school principals (or, in a few cases, to the district office) for distribution to classroom teachers. The Department of Education did not receive copies of the reports.

Each class report was accompanied by an interpretive guide which gave information to assist in using the test scores. In particular, the guide discussed the various kinds of appropriate and inappropriate comparisons which might be made by local staff. As an example, when considering the results on class reports, local educators should not make the mistake of comparing percentages either among subtests or across grades and conclude that the higher percentage indicates a "better" performance. Even though the 1981 fourth grade math computation score was higher than the eighth grade score, for example, it would have been incorrect to say that fourth graders are "better in math" than eighth graders on the basis of this information alone. The test sections were not of comparable difficulty so no direct comparisons are possible.

Statewide Averages to Follow

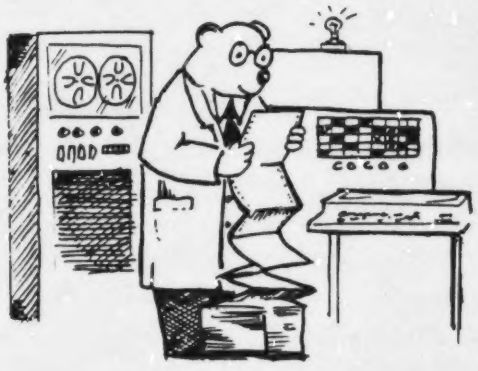
When virtually all of the answer sheets are scored, calculations are made to find the statewide average score for each test section. This information is sent to schools in early May so staff members can compare these averages with their classroom scores.

The statewide information is also used to prepare data files for further study. This summer, the Department and Interwest will analyze the test data in more detail. Results from those analyses will be available to Alaska educators in an Assessment Report newsletter which will be sent to schools at the beginning of the 1983-84 school year.



This is one in a series of reports to Alaska educators and other interested individuals and organizations about the Alaska Statewide Assessment Program. This report is prepared under the direction of the Office of Planning and Research of the Alaska Department of Education. *Copyright © April 1983 by the Alaska Department of Education and Interwest Applied Research, Inc.* *The Department encourages questions and comments about the assessment process; inquiries and suggestions should be directed to Dr. Alexander E. Hazelton, Supervisor of Research, Alaska Department of Education, Pouch F, Juneau, Alaska 99811. Additional copies of this and previous reports are available upon request.*

Assessment Provides Variety of Information — Results to Districts Forthcoming



The Alaska Statewide Assessment Tests were developed by Alaska educators, who based them on reading and mathematics objectives they considered important. Unlike many commercially available tests used by districts, the assessment tests were developed without concern for their suitability outside the state. This difference usually results in more valid data than is available from nationally standardized tests. Test results are available in three categories — statewide averages, group comparisons and statewide interpretive information.

Statewide Averages

As mentioned on the previous page, statewide average scores on each of the subtests will be available in early May. One of the primary values of this information will be to compare the 1983 performance of students against their 1981 counterparts. The panels of Alaska educators who establish the content of the assessment tests chose to keep the content of the 1983 tests similar to that of the last tests, given in 1981. Since the items were changed, comparisons will have to be made cautiously but it should be possible to make statements about differences in performance between the two years. (Because the test content changed dramatically between 1979 and 1981, comparisons to earlier years' performance is inappropriate.)

Group Comparisons

While no comparisons are made among classrooms, schools or districts in the state, four broad categories of comparison are made based on the assessment scores. The scores of boys are compared to those of girls; those of bilingual students to non-bilingual students; those of Alaska Natives to whites and other racial groups; and those in different sized districts (large, medium, small and rural). These comparisons will be conducted over the summer and reported by letter to district superintendents as soon as they are complete. They will be included in the first Assessment Report newsletter to be sent to schools next September.

Statewide Interpretive Panels

It is always necessary to point out that test performance cannot be judged "good" or "bad" until item-by-item scores can be compared to the expectations for performance held by state educators. Thus the data analyses performed over the summer will be shared with Interpretive Panels of Alaska educators. Panelists examine each item on the test in order to determine whether student performance should be considered a strength or a weakness. The strength/weakness information will be made available in early fall. District staff are currently providing the Department with nominations for Interpretive Panel participants.

Local Use of Test Results

Alaska has no mandatory curriculum. Each of Alaska's 53 districts independently determines the content to be taught at a given grade level. Consequently, some districts may not have taught certain skills prior to the assessment test administration in late March. Even when skills have been taught by the testing date, different districts stress the skills to varying degrees. Therefore, strengths and weaknesses shown by the assessment are best evaluated in light of each district's curriculum goals.

When school opens in the fall, district item-by-item analysis information will be available to those districts which have requested it. This information can be used to conduct a district-level interpretive process which will point out strengths and weaknesses in student performance as compared to district expectations. The Department of Education will provide districts with an Apple II microcomputer program to assist them in the interpretation process.

District Testing Representatives Play Important Role In Assessment

The 1983 Alaska Statewide Assessment testing was the smoothest of the four administrations to date. Tests generally arrived in schools as expected several weeks prior to testing; student answer sheets were returned promptly for scoring. In all, the logistics of this test administration went well. Much of the credit for the trouble-free nature of the assessment goes to the 53 Alaska educators who served as District Testing Representatives. These individuals assisted the Department of Education by providing information on student enrollment, verifying mailing addresses for test shipments, and selecting desired formats for test score reporting. They assisted their district by answering questions about the assessment and facilitating communication between schools and the Department.

By all indications, Alaska has one of the better assessment programs in the country. The efforts of the District Testing Representatives contribute greatly to this success.

1983 Alaska Assessment Testing Representatives

Adak Region Schools–Gary Jackson
Alaska Gateway Schools–Ralph Rudzik
Aleutian Region Schools–Denise Trefry
Anchorage Schools–Fred P. Stofflet
Annette Island Schools–Roger Sampson
Bering Strait Schools–Mary Rubadeau
Bristol Bay Borough Schools–Len Mundorf
Chatham Schools–Duane Fryrear
Chugach Schools–Jeff Jackman
Copper River Schools–Lloyd L. Fezler
Cordova City Schools–Irene Fairall-Gunnerson
Craig City Schools–Luanne Watkins
Delta/Greely Schools–Douglas Whitener
Dillingham City Schools–Henry Kilmer
Fairbanks North Star Borough Schools –Ruth Hurlburt
Galena City Schools–Kenneth Lease
Haines Borough Schools–Alan Heinrich
Hoonah City Schools–Kenneth Dettering
Hydaburg City Schools–Gerald M. Christensen
Iditarod Area Schools–Mike Baumgartner
Juneau Borough Schools–Bud Ivey
Kake City Schools–Rita Sjunnesson
Kenai Peninsula Borough Schools–Kris Rogers
Ketchikan Gateway Borough Schools –Edward K. McNulty/Ron Hamberger
King Cove City Schools–Lorelee Jutras
Klawock City Schools–Bill Denkinger
Kodiak Island Borough Schools–Jerry Byler
Kuspuk Schools–Bill Wagnon
Lake and Peninsula Schools–Jack Kreitinger
Lower Kuskokwim Schools–Mary Francis
Lower Yukon Schools–Roger Adams
Mat-Su Borough Schools–Bob Covington
Nenana City Schools–Mark Markel
Nome City Schools–Nancy Schave
North Slope Borough Schools–Samuel Bushon
Northwest Arctic Schools–Laretta Quinn
Pelican City Schools–Ralph Allen
Petersburg City Schools–John McCabe
Pribilof Schools–Leland Dishman
Railbelt Schools–Kathleen Formella
St. Marys Public Schools–Herb Oba
Sand Point Schools–Cy Crawley
Sitka Borough Schools–Terry L. Coon
Skagway City Schools–Dave Lannigan
Southeast Island Schools–Dave Dossett
Southwest Region Schools–Jerry Foldenauer
Tanana City Schools–Robert H. Jackman
Unalaska City Schools–Ken Satre
Valdez City Schools–Dennis Wallace
Wrangell City Schools–Ronald Castle
Yakutat City Schools–Stan Vogel
Yukon Flats Schools–Earl B. "Andy" Andersen
Yukon/Koyukuk Schools–Niki McCurry

Assessment Hotline Will Continue

In order to facilitate the involvement of local educators in the state's Assessment Program, the Department of Education and Interwest Applied Research will continue to support the "Assessment Hotline." This no-cost telephone number will allow local educators to make comments and receive information about the assessment.

We would like to hear from you regarding any issue related to the assessment. Call (503) 223-3396 collect any weekday between 9 and 4 Pacific time. Ask the operator to tell the person answering that you are calling about the Alaska Assessment; your call will be accepted and a person knowledgeable about the assessment will speak with you.

Assessment Hotline 1-503-223-3396 COLLECT

In the News . . . 1983 Assessment Completed

The week of March 21-25, 1983, witnessed the fourth assessment of basic skills achievement of Alaska's fourth and eighth grade students. The Statewide Assessment tests covered objectives important to the ongoing education of Alaska students, as established by panels of educators from throughout the state. The results which will be obtained from this assessment are the only statewide indicator Alaskans have of how well their students are mastering basic skills.

Over 12,000 students—virtually all of Alaska's fourth and eighth graders—participated in the assessment. Almost all schools had received their results by the middle of April; statewide averages are to be sent to districts by the middle of May. Additional specialized analyses will be conducted during the summer and results will be announced at the beginning of the 1983-84 school year.

The Alaska Assessment Tests are objective referenced. In an objective referenced test, the quality of students' performance is judged by how well it meets the expectations held for those students. Although the major purpose of the Assessment Program is to provide a statewide indication of student achievement, individual districts can establish their own criteria of how well students should perform. In this way, the Statewide Assessment Program can provide valuable information to local educators.

In the coming year, increased attention will be given to assisting those districts that want help in getting the most use from their assessment results. Assessment results can be a valuable source of supplemental information about student achievement. The Department continues to be committed to making that information as useful as possible to local educators.

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ASSESSMENT REPORT—Please Circulate

ASSESSMENT REPORT 7: An Update on the Alaska Statewide Testing Program

Results of the 1983 Statewide Assessment

How well can Alaska students understand what they read? Use simple tables, graphs, or maps to answer questions? Perform one- and two-step mathematics operations? Every other year, the Alaska Department of Education seeks answers to these and other questions through its statewide assessment of fourth and eighth graders.

Alaska's fourth statewide assessment, conducted the week of March 21-25, 1983, was administered to more than 13,000 students—the largest number ever to participate. (Previous tests were administered in 1977, 1979, and 1981.) All tests were scored last spring and reports were returned to schools and districts before the summer recess. Detailed statewide totals were accumulated over the summer.

The Alaska Department of Education publishes results on a statewide basis according to students' sex, race, bilingualism, and district size. Current policy, as set in previous years by the State Board of Education, prohibits comparisons among classrooms, schools, or districts. Although the assessment covers objectives Alaska educators identify as important, some districts may still feel that portions of the test content do not match local goals. Further, the wide variations in enrollment of Alaska districts make accurate statistical comparisons impossible.

What the assessment can do, however, is to give Alaska educators and citizens a chance to compare the performance of local students to that of Alaska students statewide; and then to determine whether those test results should be used in shaping future educational programs. It is hoped that this assessment report will help educators and others begin the important task of objectively analyzing assessment results.

The assessment was administered to over 13,000 students—the largest number ever to participate.

HOW THE ASSESSMENT PROCESS WORKS

Content Panels comprising experts in reading and math from throughout Alaska determined which specific skills would be measured by the 1983 test. Contractors working with the Department of Education then created test items to meet panel members' specifications. Every test item

was reviewed for suitable content, appropriateness of grade level, and freedom from bias of any kind. Test items were then pilot tested and reviewed a second time prior to printing. In order to permit comparisons between years, the 1983 tests are similar to those of 1981 in format and approach, but almost every item is new.

All tests were administered locally, in most cases by classroom teachers. In early March, participants received tests, machine readable answer sheets, and directions. Tests were divided into two sections, reading and math, each containing about 40 questions and requiring just under an hour to administer. All fourth and eighth graders were tested except those who were absent on the day of administration, those in self-contained special education classrooms, and those in alternative schools. Answer sheets were returned to the Department's contractor for scoring.

The Alaska Statewide Assessment Test is truly Alaska's own. It was constructed by Alaska educators, based on the reading and math objectives they felt were important for Alaska students.

The test offers important advantages over commercially available standardized tests. Not only are the items designed to reflect objectives deemed significant in Alaska, but many contain references to names or places familiar to Alaska students. And because the tests are related to specific objectives, the results can give state and local education leaders more precise information about their students' strengths and weaknesses.

ANALYZING RESULTS

Test scoring was rapid, thanks to a unique scoring system that makes use of a microcomputer and small test scoring machine. Most reports were on their way to local educators the day after the answer sheets were received. Classroom reports, listing individual student scores as well as classroom average scores, were returned directly to principals (or in some cases, district offices) for distribution to classroom teachers. Schools also received information on statewide averages, so that they could compare their local students' performance to that of Alaska fourth and eighth graders as a group.

Since the tests were scored, the Department's scoring contractor, Interwest Applied Research, has been tabulating and analyzing data. This report summarizes their findings.

This report is intended as an objective summary of assessment results. No implications for instructional programming or curriculum development are included or implied. Such decisions properly belong to local Alaska educators, who must consider these findings in light of each district's unique situation, and to the State Board of Education and Department of Education officials who set policy for statewide education.

ABOUT TEST CONTENT

Prior to Alaska's first statewide assessment in 1977, Content Panels of teachers and curriculum specialists began putting together a comprehensive collection of objectives and test items in reading and math from which projects like the statewide assessment could draw. The result of their efforts, the Alaska Objectives and Items Bank (AOIB), forms the basis for the Statewide Assessment Test, the classroom-based Alaska Instructional Diagnostic System (AIDS), and a forthcoming computer-based mastery testing system (now in its design stages) that allows districts to construct reliable tests based on their own objectives.

In selecting items for the assessment test, panelists recognized that each district had its own curriculum and its own subject priorities. Yet they realized it was important to know how students across the state performed in reading and math. They decided to focus on basic skills, but not just at the minimum level; the assessment test contains both items which they felt every student should master and items covering more advanced skills which, though important, might not be part of every curriculum. Because of this mix of basic and advanced skills, the statewide assessment should not be viewed as a "minimum competency" test (a test which measures only very basic skills, usually at several grades below the students' level).

The test offers several advantages over commercially available standardized tests; because the tests are related to specific objectives, the results can give precise information about students' strengths and weaknesses.

The following sections describe each of the six assessment subtests, and present sample items for each.

MATHEMATICS

Application

Application items test problem solving skills: identifying exact facts, translating written information into math equations, determining the correct operation to solve a problem, recognizing when more information is needed. Most items consisted of a short story problem, with one or two relevant questions.

Example: (Grade 8)
A tour group was visiting the Mt. Hood Glacier. There were thirteen men, fifteen women and eight children. How many were in the tour group?

What is the way to find the answer to this problem?

a. Add
b. Add, then subtract
c. Subtract
d. Subtract, then add

Computation

Computation involves basic arithmetic: adding, subtracting, multiplying and dividing whole numbers (positive and negative), fractions, and decimals. The problems were not intended to be tricky, yet were constructed in such a way that common errors would lead students to select one of the incorrect options. Such a test format helps educators who interpret assessment results to make an educated guess about the cause of student errors.

Example: (Grade 8)

$$\begin{array}{r} 32.2 \\ \times\ 1.5 \\ \hline \end{array}$$

a. 4.72
b. 4.83
c. 47.2
d. 48.3

Concepts

Test content and format have changed since the assessment began. Between 1979 and 1981, the Content Panel determined it was important to test students' understanding of math concepts—such things as number properties, place value, rounding, telling time, units of measurement, equivalent fractions, geometric shapes. Math concept items measure a student's understanding of information presented, but do not require any calculation.

Example: (Grade 4)

The time 7:05 means

a. Seven minutes before five o'clock
b. Five minutes after seven o'clock
c. Five o'clock
d. Half past seven o'clock

READING

Comprehension

For this section of the test, students were given a reading passage, then asked to respond to several questions about that passage. The questions were designed to measure such skills as ability to identify the main idea, distinguish facts from opinions, draw inferences, and reach conclusions. Great care was taken to ensure that the reading level of each passage was appropriate for the grade level tested.

Example: (Grade 8)

The following information was provided by the American Automobile Association.

The American Automobile Association (AAA) has recently produced a new map of Alaska and Northwest Canada. This map, which is the first complete revision made by AAA in twenty-five years, required 4,000 hours of work to develop. It is based on data obtained from United States survey maps, from satellite photographs and information collected from first hand observation of mileage and travel conditions.

Printing and designing the map also required many hours of work. It was printed by a four-color process and has eight smaller strip maps.

A spokesman for AAA's travel department informed us that this is the only accurate road and travel map of the area one can obtain.

From the information given, what would be the BEST guess about the amount of time that went into the project?

a. One day
b. Two or three weeks
c. More than a year
d. Ten years

Study Skills

This section focuses on students' ability to find and selectively use information in a dictionary, index, map, graph, chart, table, and so on. Special care is needed in interpreting results from this section, since some study skills covered on the assessment test may not be part of some Alaska districts' curriculum.

EXAMPLE: (Grade 4)

(Student is given a sample dictionary page on which to base responses.)

Which of these statements is NOT true?

a. A book would be easy to MOLD.
b. MOLES live underground.
c. Volcanoes give off enough heat to form MOLTEN rock.
d. MOLASSES tastes very sweet.

Word Skills

This section of the test covers skills Content Panelists consider vital to reading proficiency, including knowledge of regular and irregular vowel sounds, consonant combinations, possessives, prefixes and suffixes, synonyms and antonyms, and multiple meaning words.

EXAMPLE: (Grade 4)

Read this sentence and answer the question.

The doctor CHECKED her weight.

What does CHECKED mean in the sentence?

a. Covered with black and white squares
b. Marked with a pen or pencil
c. Measured
d. Ordered to pay money through a bank

HOW HARD WAS THE TEST?

Every test has an easiest and a hardest item—a "snap" item that practically no one misses and a "toughie" that only a few get right. The 1983 "Toughie Trophy" goes to item 30 of the grade 8 math test. This item, which asks students to recognize that if 3/A = B then A = 3/B, was answered correctly by only 28 percent of the students. The easiest item in 1983 was also on the grade 8 math test. When asked how to find the answer to the word problem (given previously as the example math application problem) which involved totalling the number of people in a tour group, over 97 percent of the students knew it was necessary to add the numbers to solve the problem.

Because the Content Panels were interested in learning the performance of students on a wide range of reading and mathematics skills, such variations are perfectly acceptable. Unlike some standardized tests which must be constructed with a limited range of difficulties, the objectives-based Alaska Assessment Tests are able to measure student performance on any skill which is considered important by the state's educators.

RESULTS FOR 1983

The graphs in the following section illustrate the statewide averages for fourth and eighth graders on each of the six subtests. Notice that results for the two grades are graphed separately. There is an important reason for this. The test items for the two grade levels are not equal in difficulty. Even though fourth graders scored "higher" than eighth graders on the Math Concepts subtest, for instance, it is not correct to say that they performed "better," since the two subtests were not comparable. The items that the Content Panel members chose for the grade 8 test may simply have been more difficult.

Remember that the underlying purpose of assessment is to identify instructional needs for the purpose of improving programs and teaching strategies. For this reason, the scores are most valuable when they are compared against expectations held for the students by Alaska educators and the general public, rather than when viewed in isolation.

STATEWIDE AVERAGE SCORES

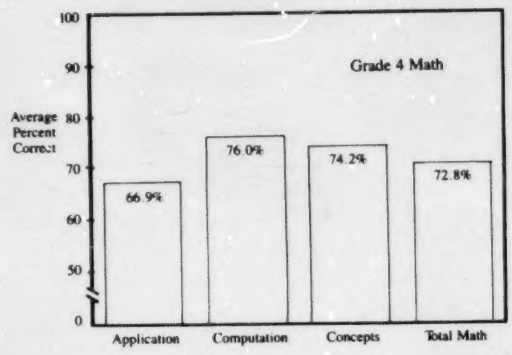
These graphs show the statewide average scores obtained by Alaska fourth and eighth graders on each of the six subtests. Based on this review of performance, some initial observations can be made.

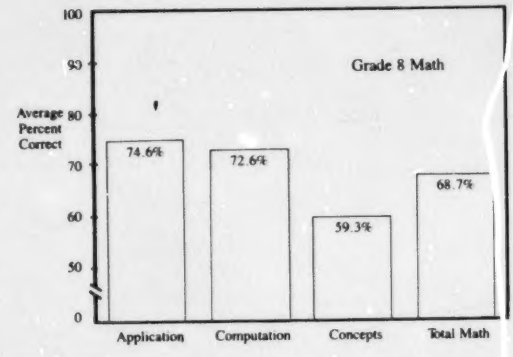
Mathematics

The scores on the math subtests were clustered around the 75 percent correct level with two important exceptions. The grade 4 math application score was a little less than 67 percent; this score is somewhat lower than the equivalent 1981 score due primarily to lower performance on one item related to obtaining a fact from the given word problem. The grade 8 math concepts score (59%) is virtually identical to the 1981 score. This subtest requires the students to show an understanding of some advanced mathematics concepts such as pi, number properties, geometry and so on. Students scored rather poorly on some of these items (as low as 28%) and this lowered their overall subtest score. It is likely that the difficult items are not emphasized in all schools by the time the assessment test is given.

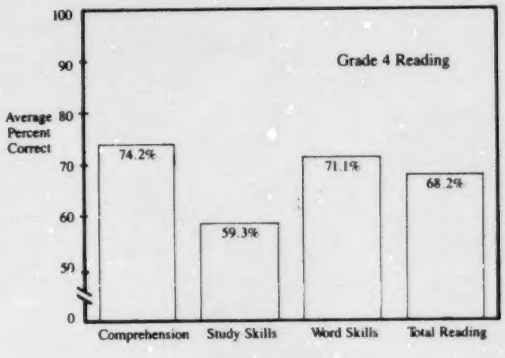
Eighth grade students raised their math computation scores by over four points from 1981, but part of the im-

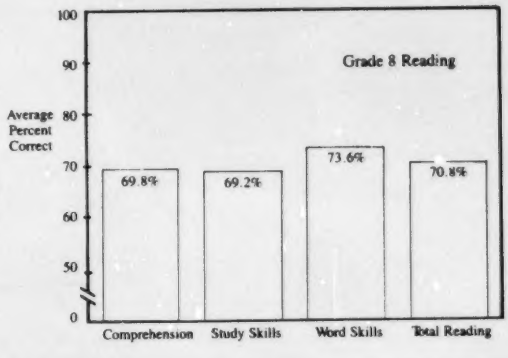
Math





Reading





provement may be due to a change in a few items. Two items dealing with negative numbers were thought by the Content Panel members to have little practical significance and were therefore replaced. The newer items, while still not easy, were answered correctly by substantially more students.

Reading

Scores on the reading section of the test varied considerably depending on grade level and subtest. Overall, the total reading scores were quite similar (about 70% correct) but the contributions made by the three subtests differed considerably. Fourth graders, for example, needed high scores in reading comprehension (74%) and word skills (71%) to make up for a low score in study skills, where they answered only 59 percent of the items correctly. As with the eighth grade math concepts test, this lower performance may be attributable to the fact that some items reflect objectives that are not completely covered by all districts prior to test administration.

The grade 8 reading scores were quite consistent. While the highest score (74%) occurred in word skills, this is quite close to their lowest score, the 69 percent in study skills. Remember that in a 10-to-15 item subtest, answering one more item correctly will raise a score from eight to ten percentage points. So the five percent difference between highest and lowest subtest (74% and 69%) means that the total number of items answered correctly was less than half an item different between word skills and study skills.

If Alaska educators were asked to predict the subtests in which students would score lowest, most would probably correctly pick math concepts and reading study skills. For one thing, there is no established curriculum for teaching study skills or math concepts. Although the Content Panels believe these skills to be very important, they recognize the disparity among Alaska districts in the manner and extent to which this material is covered.

REMEMBER THE HOTLINE!

Do you have a question about the assessment that isn't covered here? A suggestion? Criticism? Recommendation for improvement? The Department of Education is eager to encourage your participation, and for the past several years has made a HOTLINE number open for just this purpose. Please call ***COLLECT*** any weekday from 9 a.m. to 4 p.m. Pacific time, and someone knowledgeable about the assessment will be happy to talk with you.

ASSESSMENT HOTLINE
503-223-3396 COLLECT

LET US HEAR FROM YOU!!

ANSWERS TO A FEW IMPORTANT QUESTIONS

An assessment can only be useful when educators and others understand what the results mean. Certainly not every question about Alaska's 1983 assessment can be answered here, but an effort has been made to respond to those questions most often considered critical. Please remember that far more detailed information can be obtained either through the Alaska Department of Education in Juneau, or its contractor, Interwest Applied Research in Portland, Oregon.

Was students' performance satisfactory?

This is perhaps the single most difficult question to answer in regard to any assessment. "Satisfactory" performance is really a subjective judgment, which must take into account (1) the difficulty of the test items, and (2) the expectations held for the students who took the test.

To understand this better, suppose that in a given School District X, every item on the test (in other words, all test content) had been thoroughly covered in classroom instruction. Further, suppose that the staff in that district felt their students were capable of mastering all those skills and had, indeed, done so prior to the test. They might then reasonably expect rather high performance from District X students.

But suppose that in District Y, some of the test content had not been covered during classroom instruction, and, as a result, the staff in the district had very modest expectations for their students. One would not, therefore, expect the performance of District Y students to be as high as those in District X. If their scores were identical, staff in District X could feel the performance was unsatisfactory, while the District Y staff might feel the same scores were quite satisfactory.

The staff and parents in individual districts are best qualified to decide what level of performance is "satisfactory," since obviously they are best acquainted with local objectives and the expectations held for local students. At the same time, some general observations can be offered on a statewide basis. A special Interpretive Panel appointed for this purpose will soon initiate an item-by-item review of test performance (see the discussion later in this newsletter for details). In making their judgments, the Interpretive Panel will consider which test items represent minimum skills, or

Satisfactory performance is really a subjective judgment which must take into account (1) the difficulty of the test items, and (2) the expectations held for the students who took the test.

those which most Alaska students at each respective grade level should have mastered; and which represent more advanced skills, or those which fewer students would have mastered. In addition, they will rate the relative difficulty of each individual item and their expectations for overall student performance before offering any interpretations of results.

How does 1983 performance compare to that for 1981?

This frequently asked question about year-to-year changes in test performance cannot always be answered through a simple comparison of test scores. Such data could be very misleading, since tests for any two years could be somewhat different. Moreover, other factors are likely to have changed to some degree: areas of statewide educational emphasis, classroom and district objectives, and so on. Direct score-to-score comparisons, therefore, must be made cautiously.

Such a comparison is possible between the 1981 and 1983 statewide assessment tests, however, because the 1983 Content Panels thought that the objectives used in 1981 were still important indicators of statewide student learning. Under their direction, the 1983 test was made very similar in content to that administered in 1981. Further, no major changes in educational emphases occurred at the statewide level between 1981 and 1983. Thus, comparisons of student performance for 1981 and 1983 can be made with some degree of confidence.

At the same time, despite comparable content, the 1981 and 1983 items are not exactly equivalent in difficulty. Even items measuring the same skill can have slight differences. For this reason, comparisons made at this time must not be too precise; a change of two or three percentage points, for instance, should not be regarded as significant. Each subtest has between 10 and 16 items; an increase of three percent is an improvement of less than half an item answered correctly.

Given the precision of the tests, one can say that 1983 scores are little changed from 1981. Some subtest scores went up, some went down. But the overall conclusion based on comparison of the 1981 and 1983 test scores is that the performance of Alaska students is little changed.

These similarities are not surprising. In the two intervening years, there were no significant statewide educational changes that would have led to higher assessment scores. In general, statewide scores will improve

The conclusion is that the performance of Alaska students is little changed from 1981. Statewide scores will improve dramatically only if increased emphasis is given, on a statewide basis, to the skills covered by the test.

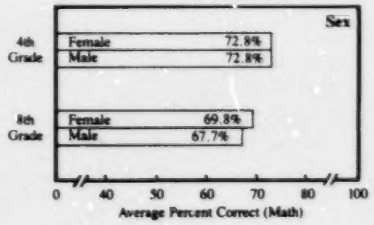
dramatically only if increased emphasis is given, on a statewide basis, to improving mastery of the skills covered by the test. This does not mean, however, that scores did not change in individual districts. It is likely that some districts did make instructional changes that were reflected in increased assessment scores.

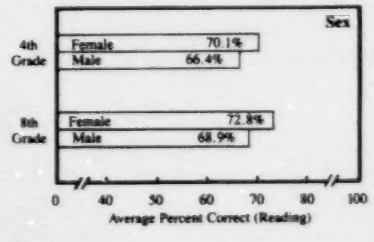
Who scored higher—boys or girls?

As in the past Alaska assessments, girls slightly outscored boys on most test sections. Fourth grade girls averaged 31.5 items correct on the 45-item reading test and 27 items correct on the 37-item math test. Boys averaged 30 items and 27 items correct on reading and math respectively.

At the eighth grade level, girls averaged 30.6 items correct on the 42-item reading test, and 30 items correct on the 43-item math test. Eighth grade boys averaged 29 items on both the reading and math tests.

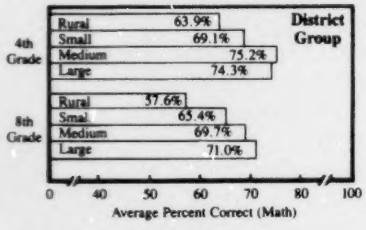
Although girls slightly outperformed boys, the differences probably have little educational significance. In terms of number of items answered correctly, the differences between boys and girls are slight. There are probably hundreds of reasons for these differences, and they cannot be determined through the information collected during this assessment. There is a high probablity that the most important factors are social and only partly related to instruction or classroom practices.

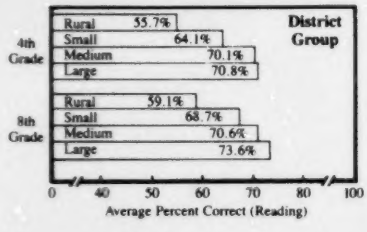




How does district size affect scores?

For purposes of this comparative analysis, Alaska's 53 districts were categorized by size and type—the 2 **large** districts being those with over 10,000 students and the 6 **medium** districts those with 1500 to 10,000 students. The 24 other city districts were classified as **small**, and the remaining 21 (all outside incorporated areas) were classified as **rural**.





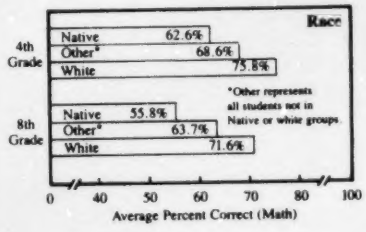
At the eighth grade level, rural districts received the lowest scores and, as the accompanying graph shows, scores improved as district size increased. At the fourth grade level, the same pattern emerges with the exception that students in medium sized districts slightly outperformed their peers in large districts on the math test.

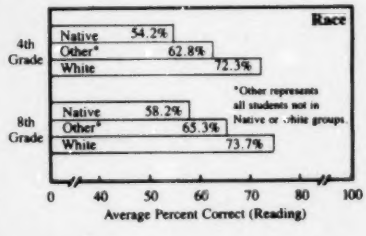
District size alone cannot be said to account for differences in performance, however, since several small and rural districts had scores far above the state average. Moreover, district size is often related closely to otner factors such as isolation of the schools and experience of the teaching staff. There are also differences in the characteristics of the students attending small and rural districts. In short, the size of districts is related to performance on the assessment test, but small size is probably not, by itself, a reason for lower scores.

How well did Alaska Natives do on the test?

Alaska's Native students scored substantially lower than non-Natives on all subtests. Fourth graders averaged 7.7 fewer items correct on the reading test and 4.6 fewer items correct on the math test. Eighth graders averaged 6.2 fewer items correct on the reading test and 6.6 fewer items correct on the math test.

The educational significance of these differences is a matter for the Interpretive Panels, the State Board of Education and district level educators to explore further. Meanwhile, those considering the results of this assessment should keep in mind the potential for interaction between race and other factors: geographic location, for instance; access to resources; experience in taking tests; bilingualism; and other factors.





The OTHER category shown on the graph includes blacks, Hispanics, Asians, and other non-white students. Given the highly diverse characteristics of this group, few if any inferences should be drawn regarding their performance.

How might district size relate to Alaska Natives' performance?

Native students form a higher proportion of the student population in small and rural districts than in medium and large districts. It has been suggested that attendance at smaller schools, where resources may be limited, could account for some of the difference in performance between Native and non-Native students. How-

ever, statistical analyses based on this premise fail to account for the total difference. White students outscored Natives regardless of whether the Native students were in urban or rural schools. Nevertheless, Natives in urban schools scored higher than those in rural schools.

Additional, more thorough analyses could be undertaken to determine the relationship between race and district size. Such variables as bilingualism of teachers and students, length of enrollment in a particular type of school or district, expectations of parents and teachers, experience of teaching staff, attendance patterns, and differences in district or school objectives and teaching approaches would have to be considered. However, the complexity of the interactions between factors make the relationship between district size and Native performance difficult to determine precisely.

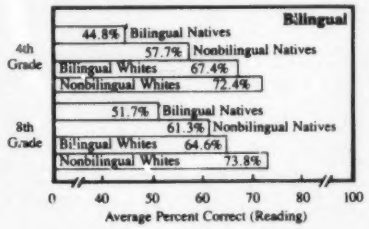
What is the relationship between race and bilingualism?

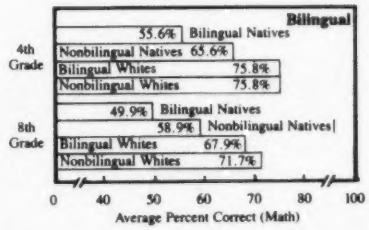
Bilingual Native students scored consistently lower than Native students who spoke only English. For example, fourth grade bilingual Natives averaged 45 percent of items correct on the reading test, 56 percent correct on the math test. Nonbilingual Natives (those speaking English only) averaged 58 percent of items correct on the reading test, 66 percent correct on the math test.

At the eighth grade level, bilingual Natives averaged 52 percent of items correct on the reading test, 50 percent correct on the math test. Natives who spoke English only averaged 61 pecent of items correct on the reading test, 59 percent correct on the math test.

Bilingual white students at both fourth and eighth grade levels scored lower than nonbilingual whites except in fourth grade math, but higher than either bilingual or nonbilingual Natives. Since there were only 59 fourth grade and 35 eighth grade white bilingual students tested, however, these results are not as reliable as the others reported in this newsletter and so should not be overemphasized.

Like other factors influencing performance, bilingualism is affected by a number of variables. In order to properly analyze these findings, it is important to ask questions like the following: Does the bilingual student speak English as a first or second language? What is the degree of fluency in the first and second language, and are they approximately equal? To what extent, if any, has bilingual instruction been provided? And suppose the tests had been administered in a language other than English; what differences in performance might have occurred?





Why are Native students' scores consistently lower?

Countless factors can affect test performance, but not all of them can be learned through research. It is extremely important for those reviewing the results of the Alaska Statewide Assessment to realize that being Native does not in and of itself ***cause*** a lower score, but it may relate—in both obvious and subtle ways—to numerous factors that can affect test performance. Two important variables—bilingualism and district size—have already been briefly considered. What other factors might be significant?

First, many of Alaska's Native students reside in remote areas amid harsh environments. Some may not be familiar with testing formats and purposes of testing. Further, some Native students may not equate success on a written test with "achievement" in the same way that a student from another environment has been conditioned to do. Second, access to educational resources may play a role. Students in rural areas typically have available fewer magazines, books, newspapers, and so on. Communications through television and radio are more limited. Differences in lifestyle can account, to a very great degree, for the opportunities one has to develop numerous everyday math, vocabulary building, and reading skills.

Third, in cases where Native students are bilingual but instructors are not, instruction may be hindered to a degree because of problems with instructional or interpersonal communications. This situation is further complicated by the fact that instructor turnover in rural areas is typically high. However, only further research—research beyond the scope of the assessment—can really determine whether these, or any of a dozen other factors, have significant impact on assessment scores.

The magnitude of the differences between Native and non-Native students makes it clear that—whatever the reasons—the performance of Native students on the assessment tests is substantially lower.

Readers should also recognize that the whole relationship of cause and effect is a particularly tricky one to analyze with respect to test scores. Hundreds of factors may be related in some way to test performance, but cannot really be said to ***cause*** high or low scores. For example, if it happened on a particular math test that all left-handed students outscored right-handed students, statistics might show an apparent relationship between left-handedness and test performance. But

clearly, it would be misleading to conclude that left-handedness ***caused*** superior performance—even though the evidence might seem to indicate that. Statistical significance does not always mean educational significance. The point is, statistical test data must be carefully analyzed and interpreted in light of other factors, such as knowledge of students and their learning environment.

Much more evidence is needed before the reasons for differences in Native and non-Native performance can be outlined with any precision. But the magnitude of the differences between Native and non-Native students makes it clear that—whatever the reasons—the performance of Native students on the assessment tests is substantially lower than that of non-Native students. The responsibility now falls to Alaska educators to determine what steps, if any, should be taken to change the imbalance.

How is performance on one subtest related to performance on another?

Students who did well on one reading subtest tended to do well on the other two. This pattern held true for math as well. At the fourth grade level, the strongest relationship was between Reading Word Skills and Reading Study Skills; students who scored high on Word Skills were likely to score high on Study Skills as well. At the eighth grade level, equally strong relationships were found between the Math Computation and Math Concepts subtests and the Reading Comprehension and Reading Study Skills subtests.

It has often been suggested that math story problems may test reading comprehension as much as or even more than math skill. If that were true, one would expect a strong correlation between math application and reading comprehension subscores. The data analysis did show a high correlation between these two subtests at the eighth grade level, but at the fourth grade the relationship was only modest. As a general rule, students who did well on one subtest were, not surprisingly, likely to do well on other subtests, regardless of the content.

How good are the Alaska Assessment Tests?

Since the Assessment Program began eight years ago, hundreds of Alaska educators have helped in establishing objectives, determining test content, setting assessment policies and reviewing test items. These educators can take considerable pride in the reading and math assessment tests they have worked to develop. Since the earliest version was piloted in 1976, all Alaska assessment tests have been carefully evaluated for two factors which best measure a test's quality: reliability and validity.

The Alaska Assessment Tests have demonstrated validity for statewide testing purposes. And analyses indicate that their reliability is excellent.

Reliability is a measure of consistency. If two groups of students with comparable skills scored quite differently on a given test, that test would be said to have low reliability. Similarly, if a given group of students scored very low on a test at one administration, then—without any additional instruction—scored very high at a second administration, that test would also be said to have low reliability.

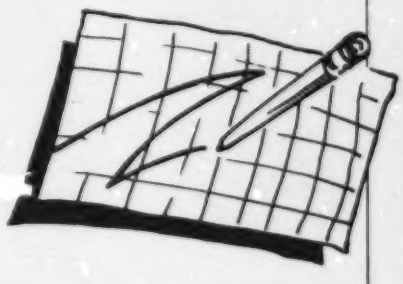
Validity, which is most often determined through review of the test items by knowledgeable educators, indicates whether a test in fact measures what it purports to measure. For example, if items on a psychology exam required very high level reading skills, the test might well be more a measure of reading comprehension than of psychological theory—and thus would be said to have low validity.

The Alaska Assessment Tests have demonstrated validity for statewide testing purposes. And analyses indicate that their reliability is excellent—fully equivalent to that of nationally published achievement tests used by many districts. And of course, because the Alaska Assessment Tests are developed and reviewed by teams of Alaska educators, they offer the additional advantage of content reflective of students' experience and interest.

What impact will these assessment results have on classroom education?

The answer to this question will likely vary from district to district—even from classroom to classroom. Local educators must ask to what extent the tests relate to local objectives; in cases where the relationship is strong, test results can be used to determine how well educational goals are being met, and whether reading or math programs need revision or expansion.

Some districts stress objectives not covered by the assessment tests. The quality of instruction on skills not covered by the assessment obviously cannot be determined by the test results. There may also be a few instances where the assessment tests cover skills not included in the districts' objectives. It is unlikely that any district would find large amounts of test content that is unrelated to their own objectives. Large discrepancies might lead districts to consider whether test results suggest that any change in educational emphasis is warranted.



Many Alaska educators agree with the view of the Conent Panels that the math and reading skills tested in the assessment provide an important foundation upon which Alaska students' academic success depends. So in general, educators in local districts will find the scores from the assessment useful—particularly when compared to local expectations.

An important role of the Statewide Assessment is to provide information which is not otherwise available about the performance of Alaska students on some specific objectives important to their education. Groups such as the State Board, the Department of Education, and teachers' and administrators' professional organizations may use the statewide results to determine what changes, if any, might be made to improve education in Alaska.

Where can I get more information?

Far more detailed information is available than can be presented in this newsletter. If you would like to know more, please contact Al Hazelton at the Alaska Department of Education,

An important role of the Statewide Assessment is to provide information which is not otherwise available ... Groups may use the statewide results to determine what changes, if any, might be made to improve education in Alaska.

Pouch F, Juneau, Alaska 99811, 465-2966. Or contact Evelyn Brzezinski at Interwest Applied Research, Box 8189—University Station, Portland, Oregon 97207, (503)223-3396. Either person will be pleased to answer your questions about the 1983 assessment, send you copies of the tests, or provide information about scoring, reporting, or test review procedures.

WHAT IT ALL MEANS: INTERPRETING THE RESULTS

The next step in the assessment process is determining how students' performance relates to the expectations of educators across the state. This task falls to the approximately 70 teachers, curriculum specialists, and educational administrators from throughout Alaska who have been selected to serve as this year's Interpretive Panel members. These 70 persons were nominated last spring by Alaska district superintendents and by the District Testing Representatives who assisted with the test administration and reporting in 1983.

The next step ... is determining how students' performance relates to the expectations of educators across the state.

Interpretive Panel members—who will begin working within the next month—will use their knowledge and expertise to set two performance levels for each test item. The first level will indicate the "minimum" percentage of students that panel members feel must get an item correct in order for performance to be considered acceptable. For example, a minimum level of 60 would suggest that 60 percent, or more, of all students tested must get a given item right in order for performance on that item to be regarded as acceptable.

Panelists will also set a "desirable" level for each item. A level of, say, 80 would indicate that panelists would like to see 80 percent, or more, of all students tested answer a given item correctly. The desirable level represents the goal Alaska educators hold for instruction related to the skill covered by the item.

In setting these performance levels, panelists must consider the relative difficulty of each item and whether an item measures basic or advanced skills.

First the Expectations—Then the Results ...

Panel members have no advance knowledge of actual student performance when they set their expectation levels. After they have completed their item-by-item review, staff at Interwest Applied Research in Portland will compare actual results to the panelists' performance levels for each item.

Wherever performance falls below the "minimum acceptable" level, it will be said to indicate a weakness in student performance. Performance above the "desired" level will be said to indicate a strength. The performances above the "minimum" but below the "desired" level will be regarded as satisfactory.

These results will be included in the next **Assessment Report** newsletter, to be released by the Department of Education in December.

District Level Interpretation

District educators must keep in mind that the strengths and weaknesses that result from the Interpretive Panel's review are based strictly on statewide performance. The **Assessment Report** newsletter will not address strengths and weaknesses at the district level; thus it would be a mistake to base any local curriculum changes on these interpretations.

Districts can, however, follow the same process for setting minimum and desirable levels of performance, based on knowledge of local objectives and students' educational environment. Free copies of tests are available from the Department for this purpose. Information related to districtwide performance on each test item and an Apple II computer program for conducting a local Interpretive Panel review are also available from the Department of Education. Once strengths and weaknesses in performance have been identified relevant to local expectations, meaningful educational planning can occur.

PLANS FOR 1985

The planning, development, and revision that go into creating the Alaska Assessment Tests are a continuous process — and work on the 1985 tests has already begun. The Content Panel members will follow the same process of selection of objectives and review of items as used in previous years. It is expected that enough continuity in format and content will be retained from 1981 and 1983 so that comparisons can be made among 1981, 1983 and 1985 test performance. At the same time, test developers and Content Panel members will consider whether any improvements can be made in test content, administration and scoring procedures, and so on.

When the test content and format have been established, a new set of items will be developed. As always, each item will be scrutinized to ensure validity, reliability, and freedom from bias. Following this careful review, all items will be pilot tested, and only those of the highest quality retained.

In 1983, the scoring and reporting procedures for the test were improved so that the information would be more useful to local educators. Some additional changes may be made prior to the 1985 assessment to continue this trend. It is possible, for instance, to provide local educators with information on how each student, classroom, and school compared to others in the state. It may also be practical to make comparisons with national averages. Some people have requested these types of information; the Department is now discussing the merit of the comparisons with educators across the state. If you have a preference regarding expansion of the information available, please call the Department of Education to express your opinion.

ALASKA EDUCATION: ITS STATUS IN 1983

A Report to Alaska Educators and Citizens

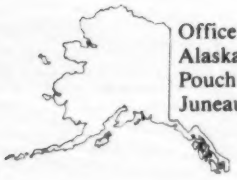
Accountability has become a much discussed topic in public school education. Alaska citizens can be proud of the fact that, over ten years ago, their ed ıcators began working on a process for determining how effectively the state's schools were educating our young people. As a result of those efforts, the Alaska Statewide Assessment Program was established. Information obtained from regular assessments of student skills has led to improved learning opportunities for the state's students.

Last March, over 13,000 of Alaska's fourth and eighth grade students participated in the fourth biennial assessment. The tests covered objectives important to the ongoing education of Alaska students, as established by panels of educators from throughout the state. Scores from the Assessment tests are the only information we have from all schools in the state to let us know how well students are mastering basic skills.

Over the past few months, extensive analyses have been performed to show how well students performed on the tests. This Assessment Report presents those results, and highlights plans for further interpretation of the test results. The information presented in this and forthcoming newsletters will be of use to the state's educators as they consider the results of the 1983 testing.

Although I came to Alaska after administration of the 1983 Assessment, I have learned that this important testing could not have been conducted without the assistance of several hundred educators from throughout the state. On behalf of the Department of Education, I wish to thank each of you who participated. We at the Department are eager to make the Alaska Statewide Assessment a valuable tool for understanding and improving Alaska schools. For example, discussions are currently underway to determine if changes should be made in the reporting process, perhaps to include more comparative information among Alaska districts or comparisons with national performance on similar content. The test content for the 1985 testing also is under review. As we consider these and other issues, I would like to solicit your continued interest and support in this process. Any time you have questions or suggestions about the Assessment, please contact me or project director Al Hazelton.

Harold Raynolds
Commissioner of Education



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